

# MARINE REVIEW.

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## Wheeler Ship Yard Difficulties.

West Bay City, Mich., June 22.—The Wheeler ship yard failure at this place makes up a very bad financial tangle. Affairs of the works since the Bessemer Steamship Co. undertook, on their own account, the completion of their three steel vessels have been largely in the hands of Mr. W. W. Huntington, a gentleman of mild but determined manner, who is said to have represented John D. Rockefeller in disentangling many similar difficulties, especially where land titles were involved. He gives attention to everybody who is entitled to a hearing at the office of the ship yard and is courteous all the time, but in some respects he is a mystery to people interested in the affairs of Wheeler & Co. Mr. Wheeler is here also, working with Mr. Rockefeller's representative in the management of the yard. None of the creditors who took the company's bonds some time ago have as yet made a move of any kind in a legal way on account of the assignment, and there have been no attachments or legal action of any kind on the part of creditors who have furnished material for the ships now under way.

When a contract was made with the Bessemer company for their three new vessels it was understood that the price was very low, but the exact figure, now said on good authority to be \$519,000, was not then known. The cost of the ships, on account of the failure, will, of course, exceed the contract price, probably by \$100,000, especially if detention is taken into account. This will give the Bessemer company a large claim against the ship yard, but it is the opinion here that they will not be out very much in the end, as the vessels which they first had constructed in West Bay City were taken at a very low figure, and the price accepted on the three now under way was very much below what other builders would take them for. Still the Bessemer company will be an important factor in legal proceedings that will undoubtedly follow the completion of the vessels.

One of the banks here was responsible for the action that precipitated the failure. Mr. Porter, treasurer of the company, went to Cleveland for money to meet a pay roll, and to meet also obligations of Wheeler & Co. with the bank. He secured from the Bessemer company some \$24,000 for pay roll and for certain machinery that would not be delivered until paid for. When he returned and deposited the pay roll money, the bank held onto it for the obligations of Wheeler & Co., on which Mr. Porter and the Messrs. Wickes were endorsers. Then the Bessemer company was called upon to again meet the pay roll before the men returned to work. As a result of this transaction, officials of the Bessemer company will, of course, be very much opposed to Mr. Porter and the interests he represents in the ship yard. Although the bond issue of F. W. Wheeler & Co. some time ago amounted to \$250,000, not more than about \$150,000 was required to meet the aggregate of indebtedness at that time. It would seem, therefore, that even with a claim of \$100,000 from the Bessemer company, the total indebtedness of the yard will not greatly exceed \$250,000. Some \$600,000 is said to have been invested in the plant. But a great deal of the machinery is of low value now, and nobody seems to venture a prediction as to the final outcome of the difficulties. John D. Rockefeller's representatives would not have much use for the plant in West Bay City. It is suggested that they might buy it in and remove it to Conneaut, but there are others to be considered in the matter, and it is not probable anyhow that the Bessemer company would go into ship building.

The first of the Rockefeller vessels, the John Fritz, was launched successfully at noon yesterday. The Fritz is a steel barge 450 feet over all, 436 feet keel, 50 feet beam and 28½ feet depth. She will have a capacity of about 6,600 gross tons on draft of 17 feet.

## War Taxes on Vessel Interests.

A special circular has been issued from the bureau of navigation, treasury department, calling the attention of collectors of customs, vessel owners and others interested to the special and stamp taxes imposed on shipping interests by the new war revenue measure, the provisions of which take effect July 1. Perhaps the most important provision affecting the shipping interest is the tax on charters. It is stipulated as follows: "Charter party—Contract or agreement for the charter of any ship, or vessel, or steamer, or any letter, memorandum, or other writing between the captain, master, or owner, or person acting as agent of any vessel, and any other person, for or relating to the charter, or any renewal or transfer thereof, if the registered tonnage of such ship, or vessel, or steamer does not exceed 300 tons, \$3; exceeding 300 tons and not exceeding 600 tons, \$5; exceeding 600 tons, \$10. The bill provides that every vessel broker shall pay a tax of \$20. Any certificate of damage or otherwise and all certificates or documents issued by any marine surveyor or person acting as such must bear a 25-cent stamp. In marine insurance policies there will be a tax of one-half cent on each dollar, or fractional part thereof, of the amount of premium charged.

The clauses of the bill relative to the tax in the foreign trade on manifests for custom house entry or clearance and on passage tickets from a port in the United States to a foreign port, have been the cause of no little misunderstanding among lake marine men, and according to the newspaper dispatches the customs collectors, themselves, in some of the lake cities, have been at variance in their opinions on the matter. That all these clauses, however, have no bearing whatever on the shipping interests of the great lakes is shown conclusively by the following clause: "Provided that the stamp duties imposed by the foregoing schedule on manifests, bills of lading and passage tickets shall not apply to steamboats or other vessels plying between ports of the United States and ports in British North America."

## Extensive Improvements in the Cramp Ship Yard.

Philadelphia, Pa., June 22.—Extensive improvements, under contemplation for some time past at the works of the Cramps in this city, are now to be hurriedly carried out. Contracts are being let for numerous new tools, for a system of overhead cranes for the rapid handling of material, and for other machinery. The system of hoisting and conveying machinery will be put in by the Brown company of Cleveland. The big order for naval vessels, which the Cramps have just secured from the Russian government, has undoubtedly hastened these improvements. The expenditure of a very large amount of money to bring this plant up to modern requirements is an indication of confidence in the future of the American ship building industry. I am told by an officer of the company, who has visited the different ship building plants around the country in making preparations for these improvements, that we will soon be so far ahead of England in labor saving machinery of various kinds for ship yards that they will be reconstructing their plants on lines now being adopted in new works here. The heads of English steel works, coal shipping concerns and ship yards have visited this country in large numbers of late for the purpose of investigating American machinery and American methods, and they are not only adopting many things that they have seen here but are placing orders with our manufacturers of machinery, who send engineers and workmen abroad to look after the work.

## No Business for Small Ships.

Ships do not go into the hands of receivers. They just quit and are tied up to a dock. They are not very expensive when laid aside in this way. It is fortunate for some vessel men that such is the case. Probably a little money will be made in the fall out of vessels that carry less than 2,000 or 2,500 tons, but all ships of this class unfortunate enough to be without contracts ought to be laid up under the present condition of the freight market. When they cannot get ore cargoes at 45 cents from Lake Superior, or grain at three-quarters of a cent from Chicago to Buffalo, it is time to quit. Many of them have gone out of commission and more will follow. The volume of business is very large, but it is being done by big vessels, and it is a fact also that vessels of all sizes are carrying bigger loads than ever before in the history of the lake trade. Ships from Lake Superior are coming down now drawing 17 feet 6 inches. They could load to 17 feet 10 inches if their owners were disposed to take chances on getting over a few shoal spots, and it is quite certain that within a few weeks the draft to and from Lake Superior will be 18 feet. Delays in port, especially at Lake Erie docks, due to shortage of cars and inadequate terminal facilities in some cases, are greater than ever before, but the big cargoes are nevertheless making up a great volume of business.

## Big Contract for Harbor Work.

Bids were opened Thursday (today) by Col. Jared A. Smith, United States engineer at Cleveland, for extensive work in the harbor of Cleveland. The work, which is all in one contract, embraces the construction of part of the west pier, the removal of the old west pier, dredging, and the completion of the east breakwater. The aggregate of material required includes: 7,059,959 feet of hemlock; 2,780,279 feet of white pine; 204,462 feet of white oak for sheathing on old work; 455,720 feet of white oak for sheathing on new work; 111,264 feet of white oak for work other than sheathing; 9,720 feet of white oak piles; 617,570 pounds of tie rods; 871,055 pounds of screw bolts and washers; 313,150 pounds of lag screws; 758,366 pounds of drift bolts; 17,200 pounds of spike; 193,435 pounds of straps; 9,280 pounds of bent plates; 1,400 pounds of wire nails; 180 pounds of mooring rings; 131,500 tons of stone for filling cribs and pier foundation; 3,500 tons of stone for leveling east breakwater foundation; 25,000 tons of stone for riprap protection for east breakwater; 3,600 cubic yards of sand; 43,368 cubic feet of concrete or stone blocks; 4,565 cubic yards of concrete made in place, and 140,000 cubic yards of dredging.

## A Steel Plant but not a Ship Yard.

The announcement that the Wellman-Seaver Engineering Co. of Cleveland had contracted with the Alabama Steel & Ship Building Co. to undertake the erection of a steel plant near Birmingham, Ala., was accompanied by a statement in the daily newspapers to the effect that the new company is also to enter into the building of ships in the south. This is a mistake. The question of a ship building plant is a matter dependent upon development of the steel works, which is in itself a big enterprise for the south at present. The words "ship building" may even be dropped from the name of the company, which is being organized under an old charter that contemplated different lines to those on which the steel works is now to be built.

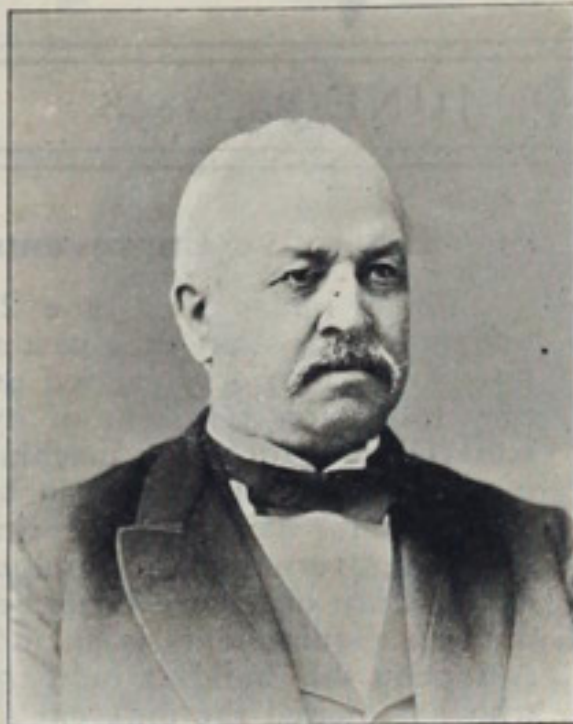
The steel plant will be a large one of the Basic kind, ten Wellman open hearth furnaces to be put in at once. As it is announced that the works will make steel rails, it is more than probable that a big export business is contemplated. This steel works will, in reality, be a part of the Tennessee Coal, Iron & Railroad Co. which controls large ore and coal properties, as well as several modern blast furnaces.

The annual meeting of the stockholders of the International Navigation Co., held recently, resulted in the re-election of the following directors: W. H. Barnes, A. J. Cassatt, C. A. Griscom, S. F. Houston and F. L. Potts, and they re-elected the following officers: President, C. A. Griscom; first vice-president, W. H. Barnes; second vice-president, J. A. Wright; treasurer, J. S. Swartz, and secretary, E. E. Parvin.



### Death of Capt. J. M. Jones.

Capt. J. M. Jones, a veteran ship builder and vessel owner, died at his home in Detroit Monday evening. He was born near Lorain in 1824, his father having been a ship builder. The young man learned the ship carpentering trade in Cleveland, but began business on his own account at Milwaukee, where late in the forties he established a yard. Among the vessels built by Capt. Jones were the Daniel Newhall, Two Charlies, Advance, Fred Hill, Badger State, Norway, D. O. Dickinson, May Queen, Milwaukee Belle, Shanghai, Tubal Cain, Allegheny, Brilliant, Driver, W. J. Whaling, Hans Crocker and Christie.



From Milwaukee Capt. Jones removed to Detroit and established a yard, where he built a score or more of large schooners. The panic of 1873 ended this enterprise and he later engaged in the vessel insurance and brokerage business. Capt. J. M. Jones was the father of C. R. Jones, Cleveland vessel broker.

### American Coasting Trade For Americans.

Canadian marine men, or rather some of them, seem of late to be cherishing, with some confidence, a hope that the deliberations of the commission on better relations between the United States and Canada will result in a modification of existing laws that will permit Canadian vessels to engage in the coasting trade on the great lakes. It may be safely said that this is manifestly a case where the wish is father to thought. The Canadians can readily afford to be enthusiastic. They have all to gain and nothing to lose by such an arrangement, than which nothing better could possibly be found to foster the development of a ship building industry in the dominion—a long cherished ambition, by the way. It is amusing to note the eagerness with which the Canadian papers, now that there is a prospect that the discussion will be re-opened, are repudiating the insinuations that Canada will seek the privilege of operating the vessels of the dominion, if not those of Great Britain herself, in our domestic trade. A very evidently inspired editorial, printed a few days ago in a prominent Canadian journal, states that nobody need imagine that Canada has any desire to share in the coasting trade of the United States on the Atlantic and Pacific, or in the Gulf of Mexico, "but," it concludes, "reciprocity in this respect in the lake trade would be of great advantage to both countries, and we feel quite sure that if the United States would relax her law to that extent Canada would cheerfully reciprocate."

There can be no doubt of Canada's willingness to reciprocate, but the other assertion that the repeal of the law would be advantageous to both countries is certainly open to dispute. Canada has little tonnage it is true, but the effect of the competition of her vessels (for there can be little doubt that the majority of them would immediately enter the American coasting trade) would be felt. On the other hand there is little business between Canadian ports to allure vessel owners from this side. Even the Canadian argument amounts to little more than that if Canadian vessels could carry grain from Chicago or Duluth to Ogdensburg, American boats could take grain cargoes from Fort William to Kingston or Prescott, and that American lake traffic, which amounts to very little below Lake Erie, might be extended to Lake Ontario. It is a foregone conclusion, however, that despite the sneers of the Canadians regarding "protection run mad," the present system has proven too eminently successful and satisfactory for the admission of even a remote possibility that our coasting trade, either on the lakes or oceans, will ever be thrown open to the world or even our next door neighbors.

### A Peculiar Accident.

An accident, in all probability unique in the history of navigation on the lakes, occurred at Cleveland a few days ago. Canal boat No. 4, of the Cleveland Steel Canal Co.'s fleet, was unloading at the dock of the Detroit & Cleveland Navigation Co. when the steamer M. M. Drake passed down the river and so close to the canal boat that a stream of steam and hot water from the condenser, exhaust or other source, was poured into the cabin of the canal boat. As the Drake was moving, the interval was necessarily short but the stream entered successively the four windows of the cabin, all of which were open. In the cabin of the canal boat at the time was Mrs. George Morgan, the wife of the captain, and the stream struck her full in the face, scalding her severely, but not seriously. After the Drake had passed, the floor of the 12 by 12-foot cabin of the canal boat was discovered to be covered with water to the depth of over an inch, and before the condition of affairs could be remedied a considerable portion of the water had leaked through into the hold, damaging, more or less, the boat's cargo of sugar. Manager Wheeler has made a demand upon Candler Bros. of Detroit, owners of the Drake, for damages, and there is considerable speculation as to the position that would be taken by the insurance companies in the event of a failure of efforts for an adjustment with the owners of the Drake.

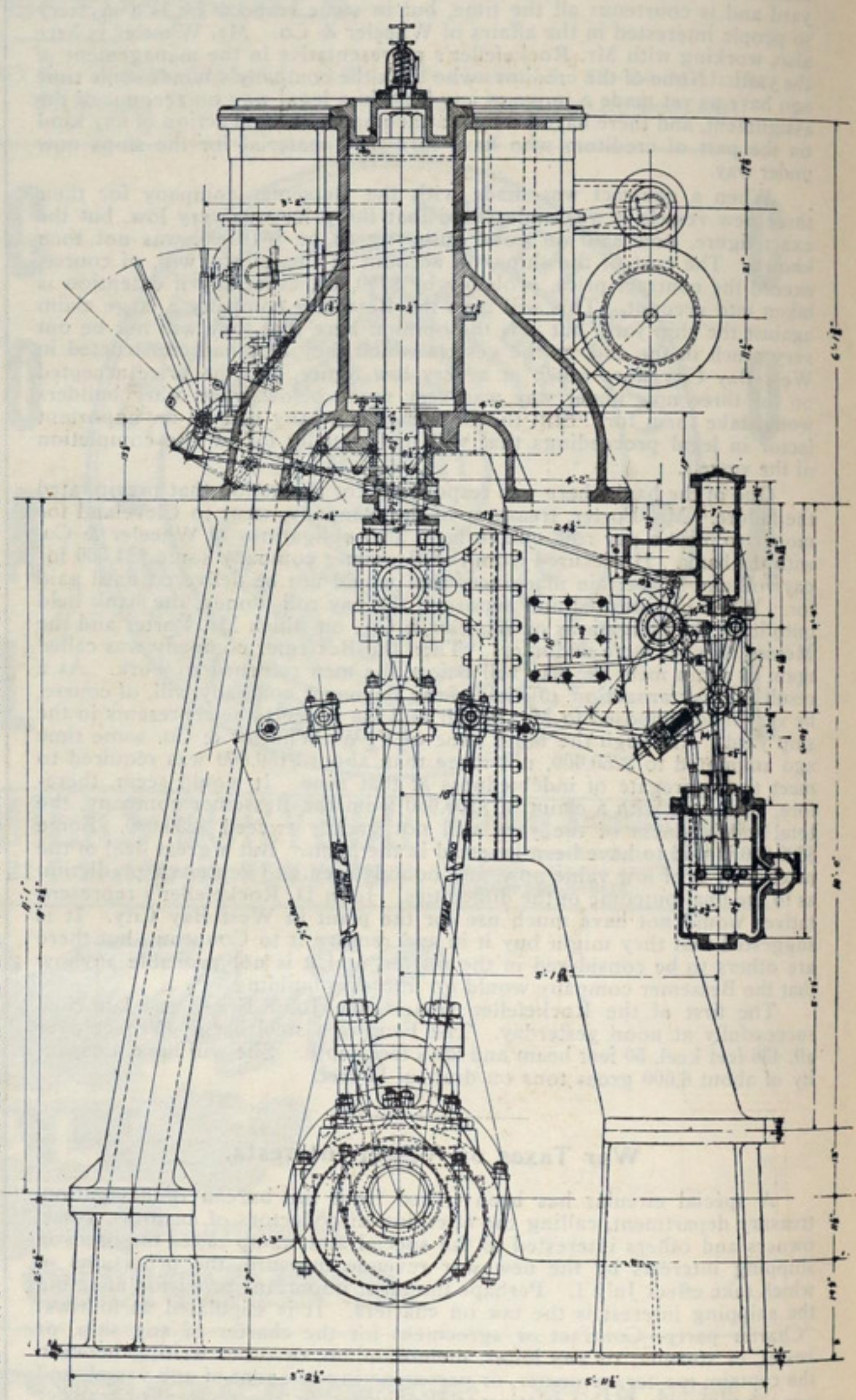
One-Fare Sunday Excursions.—Tickets are on sale from all stations on Nickel Plate road. 65, June 30

Fourth of July excursions July 2d, 3d and 4th at one fare, via Nickel Plate road. 106, July 2.

### Quadruple Expansion Engine of a Modern Lake Freighter.

The drawings which the Review herewith presents of a quadruple expansion engine for the steamer Hendrick S. Holden, now building by the Globe Iron Works Co. of Cleveland, for Capt. John Mitchell of Cleveland, and others, and which will be launched on Saturday, June 25, should prove of interest, by reason of the increasing number of quadruple expansion engines being placed in lake freighters. The engine for the Holden was designed by Supt. R. L. Newman of the Globe company, who has embodied in its construction several new features. The steamer Hendrick S. Holden is 430 feet length over all; 410 feet between perpendiculars; 50 feet, beam, moulded; 28 feet depth, moulded. She will be in all respects equal to the best coarse freight carriers on the lakes. Her masts are of steel, as are also the wrecking wheels. She has twelve cargo hatches, spaced 24 feet centers and all forward of the coal bunkers. The hull in all its parts is of the best mild steel and its construction is in accordance with the best practice.

The engine is of the four cylinder quadruple expansion type, having



ENGINES OF STEAMER HENDRICK S. HOLDEN.

cylinders 20 $\frac{1}{4}$ , 30 $\frac{1}{4}$ , 44, 63 $\frac{1}{2}$  inches diameter by 42 inches stroke. The valves on the high pressure and second intermediate pressure cylinder are of the piston type, while the low pressure cylinder has a double ported slide valve. The first and second intermediate valves have counter-balance cylinders, while the low pressure valve is operated by a Joy patent assistant cylinder, which is so designed as to take the stress off the valve gear as completely as possible. Each of the cylinders is a separate casting and the steam passages are formed by pipes internally to the cylinders. In the connection between the high pressure and the first intermediate is placed a reheater, into which live steam will be introduced for the purpose of restoring part of the heat lost by condensation in passing through the high pressure cylinder. This heater consists of a wrought iron shell containing a large number of seamless drawn brass tubes.

Perhaps the most notable feature of this engine is the fact of the two largest cylinders being placed in the center of the length of the engine, the high pressure being forward, followed by the low pressure,



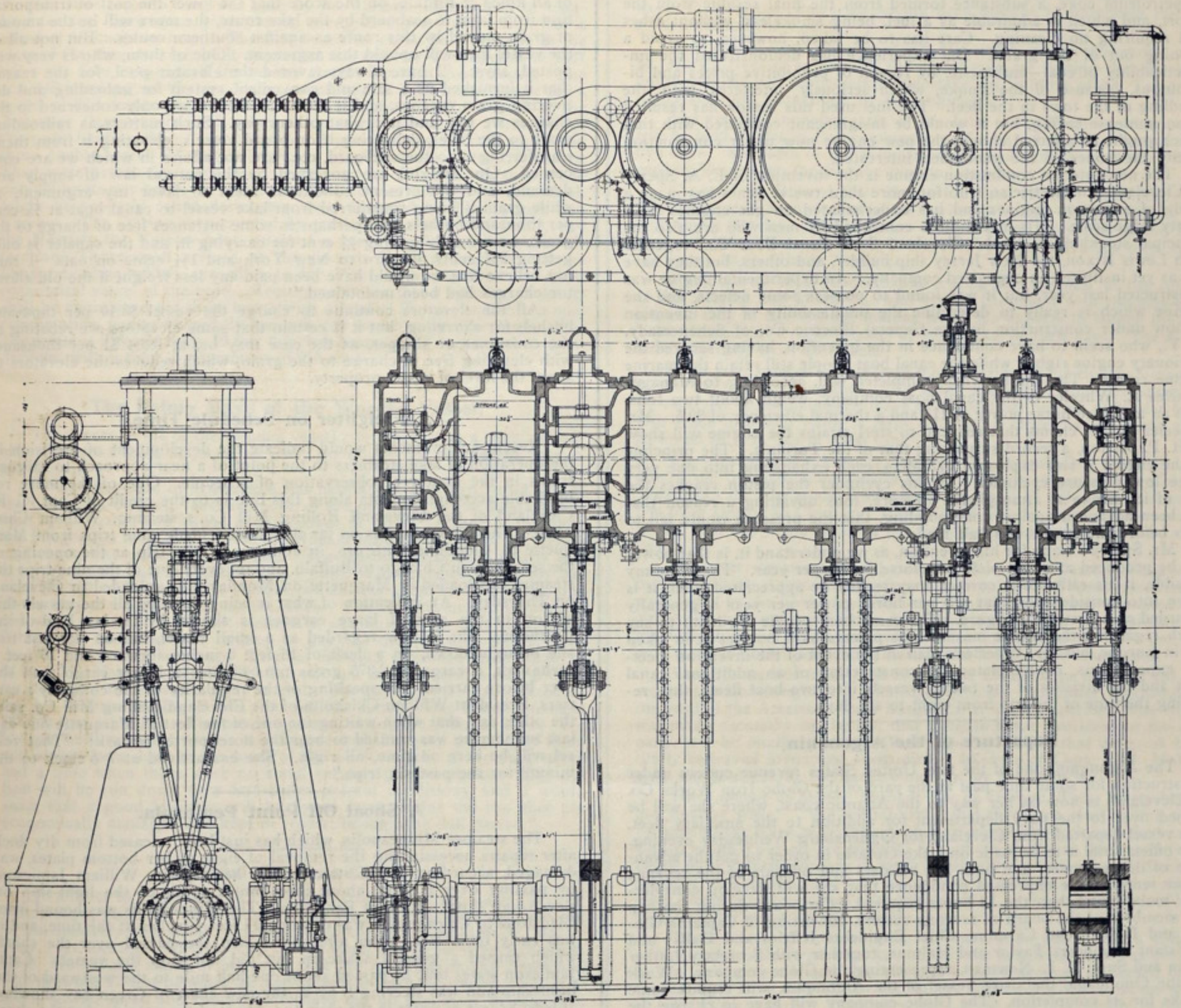
second intermediate and first intermediate aft. This feature of the design has been adopted in order to place the heavier reciprocating weights as near the centre of the length of the engine as possible and hence reducing the tendency of the engine to vibrate the ship to a minimum. The valve gear is of the ordinary Stephenson link type as shown in the drawing. The engine is to be reversed by a small engine bolted to the back columns, and another small engine has been applied for turning the engine over without the use of the main cylinders. The engine is expected to turn about 90 revolutions when developing its full power.

Steam will be supplied by three Scotch boilers at 230 pounds per square inch working pressure, the boilers being fitted with the Ellis & Eaves system of induced draught. Boilers are 12 feet mean diameter by 10 feet 6 inches long over heads, each containing three corrugated furnaces 36 inches inside diameter.

### New York City's Fire Boat Service.

Lake cities, especially Chicago and Cleveland, have been inclined to plume themselves upon the efficiency of their fireboat service, but they are still very much behind New York in this regard. Chief Hugh Bonner of the New York fire department has just favored the Review with a statement showing that the four fire boats now in service in the metropolis have an aggregate of 2,210 horse power, while the capacity of the pump aggregates 29,100 gallons per minute. The boats described in detail are as follows:

Fire boat Wm. F. Havemeyer (engine company No. 43), built in 1875; 106 feet long, 21 feet wide, 8 feet deep; wooden hull, built by Dialogue & Co., Camden, N. J.; maximum horse power of engines, 373; capacity of pumps (Amoskeag), 3,000 gallons per minute.



QUADRUPLE EXPANSION ENGINES OF LAKE FREIGHT STEAMER HENDRICK S. HOLDEN.

### Bids for the New Naval Vessels.

No time is to be lost in beginning work upon the vessels provided for by recent naval appropriations. The bureau of construction of the navy, with the co-operation of the judge Advocate-General, who supervises the making of contracts, has decided to issue a call early in July for proposals for the construction of the torpedo boats and torpedo boat destroyers, provision for which is made in the new bill. The bids will be opened three weeks after the specifications are placed in the hands of the bidders. Advertisements for bids for the monitors and battleships will be issued the latter part of July, and bids will be opened about Sept. 27, the statutes requiring that sixty days shall elapse after the completion of specifications for such vessels before the opening of bids. The bureau of yards and docks of the navy department will, about August 1 call for bids for constructing dry docks at Portsmouth, Boston, League island, and a convenient point on the Gulf coast, not yet determined. The department will, some time before the formal advertisement for bids, issue a circular embodying the required characteristics of the various docks.

The secretary of the navy has decided that no more vessels are needed for the auxiliary and patrol fleets, and Admiral Erben, president of the auxiliary naval board, has been notified to discontinue surveys of vessels offered.

Fire boat Zophar Mills (engine company No. 51), built in 1882; 120 feet long, 25 feet wide, 8 feet deep; iron hull, built by Pussey & Jones, Wilmington, Del.; maximum horse power of engines, 749; capacity of pumps (Clapp & Jones), 6,800 gallons per minute.

Fire boat New Yorker (engine company No. 57), built in 1890; 125 feet 5 inches long, 26 feet 11 inches wide, 11 feet deep; steel hull, built by Julius Jonson, New York city; horse power of engines, maximum, 750; capacity of pumps (two La France pumps and two Clapp & Jones pumps) each 6,500 gallons per minute or a total of 13,000 gallons per minute.

Fire boat Robert A. Van Wyck (engine company No. 66), built in 1897-98; 110 feet 10 inches long, 24 feet wide, 9 feet deep; steel hull, built by Dialogue & Son, Camden, N. J.; maximum horse power of engines, 338; capacity of pumps (American Fire Engine Co.), 6,300 gallons per minute.

Sir Wilfried Laurier in the course of a speech in the house of commons at Ottawa a few days since made the assertion that a French, as well as an English steamship line is soon to be established to Canada.

On Sundays parties of five or more can go anywhere and return within one hundred miles on the Nickel Plate road for \$1.00 for the round trip. Ask agents.

107, July 31.



### New Plans for the Steel Canal Boat Fleet.

Stockholders of the Cleveland Steel Canal Boat Co., operating between New York and Lake Erie ports, are awaiting most anxiously the result of an experimental trial of an internal combustion or compound gas engine which it is expected will be made within the next sixty days. Unusual interest in the trial is due to the fact that upon the success of this, or some similar type of propelling engine, depends the trend of development, and to some degree the pecuniary success of that branch of the transportation business of which the Cleveland Steel Canal Boat Co. is the pioneer exponent. A problem that has confronted the management of the line, ever since its fleet went into commission a few years ago, has been the matter of economy of fuel. The difficulties that were encountered last season have been in some degree remedied this year by the use of Pocahontas coal, and more latterly by the use of what is known as petroleum coke, a substance formed from the final residue from the retort, and which is admirable as a fuel, being smokeless, without ashes and requiring no cleaning. Care has to be taken, however, to avoid a burning out of the grates. But experience has demonstrated the impracticability of coal—anthracite, by reason of prohibitive prices and bituminous, because of the smoke, which seriously interferes with the handling of the tows in the fleet. The fuel used this season has resulted in an immense saving, but it would be insignificant compared with that which might be affected should the new engine now under construction justify the hopes of the gentlemen interested.

The new internal combustion engine is the invention of E. A. Sperry of Cleveland, an electrician who for more than twelve years has made a study of explosion engines and has experimented on gas engines on a pretty large scale. His invention is controlled by men who are also the principal stockholders in the Cleveland Steel Canal Boat Co., together with Lewis Nixon, the New Jersey ship builder, and others, but they have not as yet instituted an organized company. An experimental engine was constructed last year, but it was found to possess some defects, and the engine which is really to determine the practicability of the invention is now under construction by the General Electric Co. of Schenectady, N. Y., who seem to have confidence in the invention, having secured the stationary engine rights, while the canal boat people still retain the marine engine rights. The engine when completed will, according to Manager Charles E. Wheeler of the canal boat company, weigh about two tons, with an indicated horse power of 114 and a thermal efficiency of 39.5. Mr. Wheeler further claims that reduced to steel strains the engine will show 92 H. P. per ton, a record surpassing that of the Turbinia. The principle of the engine is two explosion cylinders, each exhausting into one very large low pressure cylinder. In this cylinder the piston reaches the end of its stroke at atmospheric pressure, thus obviating a reason that has been advanced against compounding, that the pressure would fall to zero before the stroke was half made.

Mr. Sperry's claim for his invention, as we understand it, is that power can be produced at a cost of \$3 per horse power per year. The economy possible, if his estimate is correct, may readily be appreciated when it is taken into consideration that \$19 per horse power per year is generally regarded as a pretty low figure. The canal boat people are loath to say much regarding the engine inasmuch as patents have not yet been taken out in Europe, but Mr. Wheeler's plan in the event of the invention meeting expectations, contemplates the construction of an additional canal boat and the division of the twenty vessels into two-boat fleets, thus reducing the time of the trip from eight to six days.

### Departure of the Algonquin.

The Algonquin, one of the two United States revenue cutters under construction for some time past at the yard of the Globe Iron Works Co. at Cleveland, is now on her way to the Atlantic coast, where she will be turned over to the navy department for addition to the auxiliary fleet. The vessel departed from Cleveland for Ogdensburg Wednesday evening. Her official trial is to be made on Lake Ontario in order to get the advantage of deeper water, and both her builders and officials of the revenue cutter service have expressed confidence that she will develop considerably more speed than the 18 knots required. On board during the trip are members of the board of revenue cutters, consisting of Captains Glover and Hall, Lieut. Carmine, Chief Engineers Jeffries and Dallas and Assistant Engineers Taylor and Halpine, together with Secretary Luther Allen and Supt. R. L. Newman, representing the Globe company. Work on the Onondaga, the sister vessel of the Algonquin, will require some weeks for its completion. The Globe company will have in charge the work of cutting in two and transporting each of the cutters through the St. Lawrence canals, the vessels being formally turned over to the United States government at Montreal.

### New Chicago Fire Boat.

Chicago, June 22.—Fire Chief Swenie has let the contract for the new fire boat for the Chicago department to the Chicago Ship Building Co. for \$68,500. The condition of the contract is that the boat is to be completed by Oct. 20 and work will therefore be pushed with all the speed possible. The present contract was let upon a second bid. The bids received in answer to the first advertisement several months ago were, as a rule, considerably less than the later ones but were all rejected on a technicality. According to the present bid the Chicago fire department is to furnish most of the brass work, the copper water-main and other parts of the outfit, the present specifications having been revised with a view to cutting down the expense to the builder as much as consistent with the requirements of the appropriations.

The Goodrich Transportation Co. is to rebuild its tug Arctic at the yard of Burger & Burger at Manitowoc. The tug will be rebuilt according to plans by W. J. Wood, naval architect with the Goodrich Company. Mr. Wood will also represent the Chicago fire department in the construction of the fire boat. The length of the Arctic will be increased about 12 feet, a new stem, stern and boiler provided, the engine overhauled, and new deck house, crew's quarters and galley provided.

### Grain Shoveling Charges at Buffalo.

Buffalo, N. Y., June 21.—There is little prospect of another elevator pool or combination being formed here this season, and it is probable therefore that the struggle for business, which has resulted in a war of rates between the elevators, will continue throughout the season. It is probable also that shoveling charges will be generally reduced to \$2 a thousand, which is about the actual cost of shoveling to the leg, as the laborers are paid \$1.85 per thousand, the contractor 5 cents per thousand, and 10 cents would probably cover the cost of running the shovels—that is the wear and tear on the shovels, lines, machinery, etc., and the power to run them—although the elevator owners naturally say that it costs considerably more. The vessel owner is interested in the matter of a reduction in shoveling charges, as he pays these charges. It is claimed, also, that he is interested in reduced elevator charges and handling charges of all kinds at Buffalo, on the score that the lower the cost of transportation from farm to seaboard by the lake route, the more will be the amount of grain moved by this route as against southern routes. But not all of the vessel men will uphold this argument. One of them, who is very well posted, says: "I have always favored the elevator pool, for the reason that it furnished us a safe and convenient system for unloading and delivering grain cargoes, and it seems to me we are only concerned in the charges we pay and not what others pay. Such matters as railroading grain to the lakes, delivering it on board vessels, elevating it from them, transferring it to the seaboard, etc., are not affairs in which we are concerned. Our freights are governed by the natural law of supply and demand, and the present conditions seem to favor my argument, as while grain is being transferred from lake vessel to canal boat at  $\frac{1}{8}$  cent per thousand bushels, and perhaps in some instances free of charge to the grain, we are only getting  $\frac{3}{4}$  cent for carrying it, and the canaler is only getting  $2\frac{1}{4}$  cents on corn to New York and  $1\frac{5}{8}$  cents on oats. I cannot believe that we would have been paid any less freight if the old elevator charges had been maintained."

All the elevators continue to charge the vessel \$3.10 per thousand bushels for shoveling, but it is certain that some elevators are rebating to the consignee or shipper, as the case may be, at least \$1 per thousand, with elevating free of charge to the grain, which reduces the elevators to about the level of vessel property.

### A Freighter on Schedule Time.

Recent achievements would indicate the development of precision in the operation of lake steamers to the point of a near approach to railroad trains in the matter of observation of schedule. One of the more remarkable accomplishments along this line is to the credit of Capt. C. R. Cleveland of the Cleveland Rolling Mill Co.'s steamer, William Chisholm. The Chisholm has so far this season made nine trips from Marquette to Cleveland with ore, in addition to one trip at the opening of the season from Chicago to Buffalo, and on every one of the nine trips the steamer has loaded in Marquette on Monday and unloaded in Cleveland on Thursday. An indication of what is being done by all the vessels this season in the way of large cargoes is shown by the last load of the Chisholm. She is now regarded as a small vessel, but on her last trip she brought down, on a draft of 16 feet 6 inches forward and 16 feet 5 inches aft, a cargo of 2,375 gross tons of ore—a larger cargo than she ever before carried. In speaking of the regularity of the company's carriers, President William Chisholm of the Cleveland Rolling Mill Co. said, the other day, that when waiting for one of the fleet at Marquette one day last summer he was amused to hear the hotel porter remark: "That vessel will be here on time, all right. She has arrived at 7 o'clock to the minute for the past six trips."

### A Shoal Off Point Peninsula.

The steamer Minneapolis, which has just been released from dry dock after repairs necessitating the removal of eight of her bottom plates, was damaged, according to the statement of her captain, William Jamieson, by passing over a shoal about three miles south of the light-ship on eleven-foot shoal, off Point Peninsula. The Minneapolis was bound from Gladstone to Chicago and was drawing 17 feet 4 inches at the time, and it was early on a clear calm afternoon when she passed over the shoal, which caused a general shake-up but did not stop the vessel. Capt. Jamieson states that he passed about one-half mile to the westward of the light-ship and was steering S  $\frac{1}{2}$  E, the new chart of Green bay showing at least 82 feet of water in the vicinity. He is of the opinion that the shoal is small, as the damaged plates were dented in a straight line and no other damage was done to the vessel's bottom.

Capt. Jamieson adds his testimony to that of the other complainants to the lack of proper facilities for lighting Grosse Point channel, Lake St. Clair. He also lays stress upon the fact that the smoke obscures the lights. He says that often neither the upper nor lower ranges can be seen, and as a parallel case refers to Ballard's reef, where, he says, although there are ranges on both sides, many vessels would get in trouble were it not for the side lights.

"If the new Toledo, Cleveland and Ogdensburg passenger and freight line, in which the steamers Empire State and Badger State are both now engaged, is not a success," says one of the stockholders of the new company, "it will not be for want of careful management. A trip or two already made with the boats is fully up to expectations. W. A. Collier has built up a large tug and wrecking business from the smallest kind of a beginning, and although Mr. Grover has not given much attention to the details of vessel interests with which he is connected, he has made every dollar that he has by good business judgment and sound investments. The investment in the new passenger line is not heavy, and it will not be a difficult matter to make a success of it."

Ask agents about Sunday outings on the Nickel Plate road. Parties of five or more can go anywhere on the Nickel Plate road not to exceed one hundred miles at a round trip rate of \$1.00. 108, July 31.



### Torpedo-Boat Destroyers as a Factor of Naval Warfare.

The prominence of torpedo boat destroyers in the present Spanish-American war adds to the timeliness and value of an article on "The Development of the Torpedo Boat Destroyer," contributed to the May number of the Engineering Magazine by Mr. John Platt of the firm of Thorpe, Platt & Co., New York, mechanical engineers, who are the American representatives of John I. Thornycroft & Co. of England. The torpedo boat destroyer, it is explained, has two purposes—to destroy the enemy's torpedo boats and act as a torpedo boat itself. It must have a greater speed than the ordinary torpedo boat, must be capable of maintaining this speed in a heavy sea-way, and must have a platform suitable for carrying rapid-fire guns heavy enough to sink other torpedo boats or destroyers. These should not be less than 6-pounders, and at least one 12 or 14-pounder is always added.

The first torpedo boat was built by the Messrs. Thornycroft of England for the Norwegian government, twenty-five years ago. She had a speed of 15 knots an hour. The first boat that could be said to be in the class of the torpedo craft built at present was built by Thornycroft in 1887 when the firm constructed the Ariete for the Spanish government. She was 148 feet long, of 97 tons displacement, and of 1,600 horse power for a speed of 26.1 knots per hour. The first attempt to build a craft of the destroyer class was in 1885, when there were constructed a number of "torpedo boat catchers," carrying two 3-pounder quick-firing guns and three double-barrel Nordenfeldt guns as an alternative to torpedo tubes. They were practically worthless for the purpose designed, as they made only 20 knots per hour. It was not until 1893 that the first vessels which might be properly called destroyers were designed by Thornycroft and Yarrow. The Daring, constructed by the former, made 29¼ knots, and the Havock, the Yarrow boat, attained a speed of 27.6 knots. After alterations Thornycroft arrived at the present English destroyer of the Desperate class, which, according to Mr. Platt, is the standard and most economical vessel of the type. Requirements are that a speed of 30 knots shall be maintained for three hours with a load of 35 tons and with a coal consumption not to exceed 2½ pounds per horse power per hour. The Desperate is 210 feet long, 19 feet 6 inches beam, and 7 feet 2 inches mean draught, with a total displacement of 275 tons.

### The Palmy Days of the Wooden Vessel.

The tenure of life of the wooden vessel continues to be a topic of considerable discussion, induced in part, no doubt, by the recent sale of the Quito.

"Will Fitzgerald of Milwaukee was here a few days ago," said one of the Cleveland owners, "and he spoke of the purchase of the steamer Nahant by his father and others of Milwaukee in 1879. In June of that year the Fitzgeralds tried to purchase the Nahant for \$25,000 from Capt. White of Detroit, who offered her for sale. The season had opened poorly and everything was dead in vessel circles. Capt. White refused to sell for less than \$30,000. He had in the Nahant, which was about six years old, one of the largest wooden boats on the lakes. The Nahant and V. H. Ketchum were among the biggest vessels in commission at that time. The Fitzgeralds hesitated and refused to pay the difference of \$5,000. In August everything went up. Lumber freights advanced from \$1.25 to \$4.00. The Nahant made \$22,000 that fall and the Fitzgeralds paid \$50,000 for her when the season was at an end. The captain who had offered to sell her in June at \$30,000 was thus \$42,000 ahead. The Ketchum made \$42,000 that same fall. The conditions are, of course, different now. We had no 7,000-ton steel vessels to compete with in those days. But there will always be a demand for some of the small vessels, as we have never had a time when there were no small cargoes on the market. The old fleet will be run down very fast under present conditions, and it would seem that a good business will be found later on for the few that are economically managed and kept in repair through the dull period."

### A Shoal Off Gros Cap.

In a letter to Capt. George P. McKay, treasurer of the Lake Carriers' Association, Capt. M. Mulholland of the steamer Alva gives an account of his discovery of a shoal in the north channel at the head of St. Mary's river. He locates it off Gros Cap on the usual course to Whitefish point. Capt. Mulholland states in his letter that the Alva was bound down and was drawing 17 feet of water aft and 16 feet 10 inches forward. She was going at full speed and rubbed quite hard but no particular damage was done. The captain says: "We were heading down the north channel and had Leo. Bernard's ranges a trifle open to eastward, but not much, as after passing over the shoal I never altered my course until I reached Round island ranges. I would advise all masters to keep Bernard's ranges open to the southward until they get as far down as Point Iroquois light and when abreast of same, bound up, to open the ranges to the southward. The chart shows no less than 12 to 14 fathoms of water where we touched." The matter has been reported to the government engineers.

A note in the Milwaukee Evening Wisconsin indicates that the tug being built by E. W. Heath of Benton Harbor for the Milwaukee Tug Boat Line will be a very strong craft. Her dimensions are: 98 feet long over all, 22 feet 3 inches beam and 12 feet 4 inches molded depth; engine, triple expansion with cylinders 14, 22½ and 36 by 30-inch stroke, building by the Sheriffs Manufacturing Co., Milwaukee; boiler, Scotch type, with the late Conrad Starkey's improvements, dimensions 10½ by 12 feet, to be allowed 185 pounds steam, building by the Manitowoc Steam Boiler Works. The new tug is being very strongly built of the very best materials obtainable. Her frames are 4-inch flitch molded, 10 inches on the seat, 9 inches on the bilge, 7 inches on the topsides, inside ceiling from lower turn of bilge to topside 4 inches thick; edge bolted and through bolted and forelocked on the inside, her outside planking sawed and planed, ¾ inches thick. All her deck beams around the boiler, also the carlings and engine house, will be of steel. She will have a Sheriffs wheel 9 feet in diameter.

### Around the Lakes.

Information regarding the whereabouts of Mate John Maloy, formerly of Coburg, Canada, is sought by his sister, Mrs. S. J. Moran of No. 337 Ganson street, Buffalo.

The owner of a lake tug, 30 or 40 feet long, drawing 4 feet of water, and which could be shipped by rail, can find a purchaser by addressing box 455, Marine Review, Cleveland.

According to the weekly statement of the bureau of navigation, treasury department, the steamer America, recently completed at the ship yard of the Detroit Dry Dock Co., Wyandotte, is of 486.37 gross and 283.40 net tons.

The breakwater at Goderich, Ont. is to be reconstructed and the piers repaired. The Dominion government will ask for new tenders for the work, the original contractor having been obliged to relinquish the contract because of ill health.

Now that a deep channel of 300 feet width over Vidal shoal, upper St. Mary's river is completed, the vessel men are hoping that the light-house officials will immediately undertake the lighting of it. Temporary lights are now maintained by the engineers.

The regular annual regatta of the Inter Lake Yachting Association will be held at Put-in Bay commencing Monday, July 25, and continuing five days. Members of the association are confident that entries will exceed by 50 per cent. those at the regatta last year.

Capt. W. E. Rice of Port Huron has been selected to succeed Capt. R. M. Wagstaff as custodian of the harbor of refuge at Sand Beach. He will report for duty July 1. Capt. Rice is grand president of the Shipmasters' Association, and has for several seasons sailed his own vessel, the steam barge Rhoda Stewart.

F. A. Kirby of Wyandotte was among the happiest of the officials of the Detroit Dry Dock Co. who visited Cleveland with the side-wheel steamer City of Erie on her maiden trip. He expects to launch the New York Central line freight steamer at Wyandotte in a few days. The Kirbys were originally from Cleveland.

"Tell your printer to be a little more sparing of his ciphers," says Mr. J. W. Walton of Cleveland. "He made me say in your last issue that we received in one shipment more than 6,000,000 pounds of binder twine. Our trade in binder twine is large but not so large that we could afford to invest in it in lots of 3,000 tons."

The steel steamer America, built by the Detroit Dry Dock Co., and one of the trimmest little vessels afloat, which is to run on the Chicago-Michigan City line, attained an average speed of 15 miles per hour on her trip from Detroit to Chicago. It is claimed that the vessel on the occasion of her trial trip made 17 miles per hour, against a current in the Detroit river.

The river steamer Idlewild was given a trial at Detroit this week to test the \$15,000 improvements recently completed. These improvements were made by the Globe Iron Works Co. of Cleveland and consisted principally in the provision of new feathering paddles and the application of the Ellis & Eaves force draft, which have contributed to make the Idlewild a faster vessel, and more economical from a fuel standpoint.

A postponement from June 20 to June 25 has been made in the date set for the launching of the whaleback steamer Alexander McDougall at the yard of the American Steel Barge Co. at West Superior. The change was made necessary by the fact that Colgate Hoyt, president of the company, will be unable to reach West Superior before that date. A beautifully engraved invitation, containing a likeness of Capt. Alex. McDougall, was sent out by the barge company for this launch.

The Lutch & Moore Lumber Co. of Orange, Tex., subscribers to the Review, write: "We are informed that there is a steel sailing vessel for sale on the lakes at a bargain, and we would like to locate the vessel." Cheap wooden vessels are plentiful enough on the lakes, but we have not heard of any of the owners of steel vessels trying to dispose of them at a sacrifice. Probably some of the owners of steel vessels of the smaller class, that could be worked through the St. Lawrence canals, would find a sale by following up this inquiry.

"If the steamer Linn happens to come your way," says a Chicago correspondent "don't pass her by. She is the best freight ship as yet built in the Chicago yard, and she will give a good account of herself before the season is at an end. I saw her boilers under construction at the works of John Mohr & Sons. They attracted a great deal of attention in the big boiler works of the Mohrs, which is one of the finest plants of its kind in the world. The boilers are very handsome and the heaviest yet built on the lakes. They were beautifully made and finished.

The drowning of George S. Campbell and a sailor named Peter Olson will in all probability lead to the abandonment of the project to recover the copper cargo of the steamer Pewabic. Mr. Campbell was at the head of a bell manufacturing concern in Milwaukee, and the wrecking operations on the Pewabic, which he was superintending, were undertaken in a very thorough manner. Before commencing operations he made a trip to Cleveland, and went into the matter of the location and character of the wreck very thoroughly with Capt. George P. McKay, also inspecting an old picture of the Pewabic in the possession of Capt. McKay. Mr. Campbell also conferred with Capt. George Cleveland, who was the mate of the Pewabic and who is still living in Collamer, near Cleveland, and with William Kennedy of Cleveland, who was second engineer on the lost vessel. Mr. Kennedy retired some time ago, but Capt. Cleveland only recently quit sailing, his last boat being the steamer Jim Sheriffs.

A new chart of Erie harbor and Presque Isle on a large scale, showing all the docks, has just been prepared by the government engineers. The chart is from a survey of July-September, 1896, made under the direction of Major T. W. Symons, United States engineer in charge of the Buffalo district. Corrections have been carried up to the present time. Copies may be had from the Marine Review at 50 cents each.





DEVOTED TO LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 409 Perry-Payne building, Cleveland, Ohio, by John M. Mulrooney and F. M. Barton.

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The books of the United States treasury department on June 30, 1897, contained the names of 3,230 vessels, of 1,410,102.60 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons, and over that amount, on the lakes on June 30, 1897, was 399, and their aggregate gross tonnage 769,366.68; the number of vessels of this class owned in all other parts of the country on the same date was 314, and their tonnage 685,709.07, so that more than half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1897, was as follows.

	Number.	Gross Tonnage.
Steam vessels .....	1,775	77,235.45
Sailing vessels and barges.....	1,094	294,888.87
Canal boats .....	561	37,978.28
<b>Total .....</b>	<b>3,230</b>	<b>1,410,102.60</b>

The gross registered tonnage of the vessels built on the lakes during the past five years, according to the reports of the United States commissioners of navigation, is as follows:

Year ending June 30, 1893.....	175	99,271.24
" " " 1894.....	106	41,984.61
" " " 1895.....	93	36,352.70
" " " 1896.....	117	108,782.38
" " " 1897.....	120	116,936.98
<b>Total .....</b>	<b>611</b>	<b>403,327.91</b>

ST. MARY'S FALLS AND SUZ CANAL TRAFFIC. (From Official Reports of Canal Officers.)

	St. Mary's Falls Canals.			Suez Canal.		
	1897	1896	1895	1897	1896	1895
Number of vessel passages.....	17,171	18,615	17,956	2,986	3,409	3,434
Tonnage, net registered.....	17,619,933	17,249,418	16,806,781	7,809,374	8,500,284	8,448,383
Days of navigation.....	234	232	231	365	365	365

Fresh evidence is constantly at hand of the growth of the ship building industry in Germany. According to a summary just prepared, there were launched in 1897, from twenty-eight German ship yards a total of seventy-nine vessels. There are included in this only seagoing vessels of at least 100 tons, and the whole represents a total of 185,000 tons. The bulk of this tonnage was in passenger steamers, about 40,000 in eight men-of-war, and 2,600 in sailing vessels. The German builders have undertaken the construction of many different classes of vessels, including ice breakers, petroleum steamers and steamers for high sea fisheries, as well as the fast Atlantic liners for the North German Lloyd and Hamburg-American lines, of which so much has been said of late. With the exception of a few Russian orders, the merchant vessels built were solely for the German trade. Besides the seventy-nine ships of 185,000 tons built at home, German firms placed abroad orders for thirteen vessels of an aggregate of 32,000 tons. Of the 50,000 tons of men-of-war built by Germany in late years, 23,000 were constructed in private yards and 27,000 by the government.

Considerable disappointment was occasioned by the showing made by the Kaiser Friederich, the new twin-screw express steamship of the North German Lloyd Co., which arrived in New York last week from Bremen and Southampton on her maiden trip, after a very slow run of 7 days, 10 hours and 30 minutes. Her daily runs were 290, 406, 442, 395, 472, 378, 460 and 320 knots to Sandy Hook lightship, making a total distance of 3,163 knots; average speed per hour, 17.74 knots. The engines were stopped five or six times during the passage, owing to the failure of the circulating pumps to work properly, and to the overheating of various parts of the machinery. It is said that the vessel was not given sufficient preparation for the voyage. There was, of course, no opportunity to judge of the steamer's speed or make comparisons with the Kaiser Wilhelm der Grosse, as she could not be run at her best for any length of time. The Kaiser Friederich is 600 feet over all, 64 feet breadth and 41 feet depth. Her gross tonnage is 12,000 tons. She is high-powered and her builders looked for great speed from her.

Secretary of the Navy Long has announced the names for the new vessels provided for in the naval appropriation bill, recently passed. The three battleships will be named Ohio, Maine and Missouri, while the four coast defense monitors will be christened Arkansas, Connecticut, Florida and Wyoming. The names of American naval heroes will be given to the sixteen torpedo boat destroyers which will be known as Bainbridge, Barry, Chauncey, Dale, Decatur, Hopkins, Hull, Lawrence, MacDonough, Paul Jones, Perry, Preble, Stewart, Truxton, Whipple and Worden. One of the torpedo boats will be named Badgley after the lieutenant who was killed on the deck of the Winslow a few weeks ago, the others being christened Barney, Biddle, Blakely, DeLong, Nicholson, O'Brien, Shubrick, Stockton, Thornton, Tingey, Wilkes.

England certainly has reason to fear the steady growth of the ship building industry in Germany. At a recent meeting of the stockholders of the Vulcan Ship Building & Engineering Co. of Stettin a dividend of 10 per cent. was declared. This is the firm that built the Kaiser Wilhelm der Grosse. Orders on hand at these works at present comprise two

cruisers for the German navy; three cruisers for the Chinese government; one cruiser for Japan; a twin-screw steamship for the Hamburg-American line and seventy-seven locomotives. The greatest number of men employed at any one time during the year just closed was 5,704, the smallest 4,366, and \$1,300,000 was paid out in wages.

The senate bill making provision for the retirement of enlisted men of the navy was passed a few days ago, after having been amended so as to provide that applicants for retirement under the act, as far as the navy is concerned, shall, unless physically disqualified for service, be at least fifty years of age. The bill, as finally passed by the senate, provides that when an enlisted man or petty officer has served as such thirty years in the navy, he shall, by making application to the president, be placed on the retired list with the rank held by him at the date of retirement, and he shall thereafter receive seventy-five per cent. of the pay and allowances of the rank or rating upon which he was retired.

Rumors regarding the Nicaragua canal project are flying thick about Washington and the latest is to the effect that the administration proposes to make the canal bill a war measure and have it acted upon as soon as the Hawaiian annexation matter is out of the way. The new plan of the friends of the canal project is embodied in a bill which has been drawn up by a sub-committee, consisting of Senators Morgan, Harris and Wilson, who say that all the objectionable features of former bills have been eliminated. The committee is confident that the bill can be passed before the middle of July.

The story regarding a consolidation of Russian with outside ship-building interests, which originally involved the Wm. Cramp & Sons Ship and Engine Building Co. of Philadelphia, but which was quickly denied, has now loomed up in England where, according to newspaper statements, the Thames Iron Works & Ship Building Co. has been carrying on negotiations with a view to establishing a large ship building yard in Russia. It is also said that Messrs. Yarrow have come to an agreement for building, or helping to build, torpedo boat destroyers for Russia.

An accident such as occurred at the launching of the new British first-class battleship Albion, this week, will tend to incline ship builders everywhere to private rather than public launches. An immense crowd had gathered on a frail staging, despite orders to the contrary from the police, and the swell caused by the displacement of water struck the staging, causing its collapse and resulting in great loss of life. Every ship builder who has had experience with public launches realizes the difficulty of keeping the spectators from venturing in dangerous localities.

Scotch ship builders, and especially those on the Clyde, evidently intend to surpass all previous records in the output of new tonnage this year, judging from the showing already made. The record for May shows forty-six vessels of 47,780 tons launched, as against forty vessels of 36,956 tons during May, 1897. The Scotch builders have in the first five months of the year launched a total of 176,536 tons, as against 127,487 tons in the first five months of 1897, and have thus even surpassed the famous record of the first five months in 1890, which was 175,002 tons.

Approval has been given to the sentence of three years suspension passed upon Civil Engineer Menocal for alleged negligence in the supervision of the construction of timber dry dock No. 3 at the Brooklyn navy yard. Eight of the nine members of the court, however, recommended clemency. There is a rumor in circulation to the effect that Mr. Menocal's assistant, Mr. White, may be court-martialed.

Delegates to the annual convention of the American Society of Civil Engineers at Detroit will have no complaint to make on the score of entertainment, judging by the program which has been prepared by the local committee under the direction of Chairman George Y. Wisner. Among the other excursions planned is an all day trip to the Port Huron tunnel.

The torpedo boat Fox was launched Saturday at the shipyards of Wolff & Zwicker at Portland, Ore. The vessel drew little more than 2 feet of water, and when fully equipped will draw only 5 feet. The Fox is a sister ship of the Davis, which was launched a short time ago, and is identical in every respect. Both vessels are 90 per cent. completed.

Messrs. J. & G. Thomson of Clydebank, who are building a large steam yacht for Ogden Goelet of New York, are reported to have received from his brother, Robert Goelet a contract for a twin-screw yacht of 1,750 tons, to be propelled by triple expansion engines and capable of attaining a speed of 18 knots.

A commission consisting of Rear Admiral Francis M. Ramsey, retired, Constructing Engineer Peter C. Asserson and Naval Constructor Joseph H. Linnard has been appointed to report upon locations for dry docks to be built by the United States government.

It is understood that the government paid the Cromwell line \$600,000 for the Creole, now the Solace, and \$450,000 to the Maine Steamship Co. for the John Englis, which has been renamed Relief and is being fitted up by the war department as a floating hospital.

It is claimed that the great ocean pier now building for the Old Orchard Pier Co. at Old Orchard, Me., will be the largest ocean pier in the world. It will be 1,770 feet in length, and of this 500 feet has already been completed.

Provision has been made for the appointment of twenty-two additional volunteer engineers for the navy. Examinations will be conducted by boards at Washington and Philadelphia.



### The Speedy City of Erie.

The steamer City of Erie, built for the Cleveland & Buffalo Transit Co. by the Detroit Dry Dock Co., conclusively proved her speediness and general perfection in several trial or special trips between Detroit, Cleveland, Erie and Buffalo this week. The trip from Detroit to Cleveland was made at a good rate of speed, the engine attaining thirty-four revolutions, and yet the engine did not develop a single hot journal. The trip from Cleveland to Buffalo was made in 8 hours 58 minutes, or just 8 minutes better than the record of the City of Buffalo, the Erie's sister-ship, on her initial trip. The run of 80 miles from Erie to Buffalo was made in 3 hours 55 minutes.

The City of Erie is almost exactly similar to the City of Buffalo, which has been described at length in the Review. Her dimensions, however, are 324 feet over all, 76 feet beam and 18 feet moulded depth. This exceeds the dimensions of the City of Buffalo by 16 feet in length, 3 feet width and 1 foot depth. The vessel is equipped with six boilers, 12 feet 6 inches diameter by 11 feet 6 inches long; 130 pounds steam pressure, fitted with the Howden hot draft. The engine, built by the W. & A. Fletcher Co. of Hoboken, N. J., is a compound beam condensing engine, high pressure cylinder 52 inches in diameter by 8 inch stroke, and low pressure 80 inches diameter by 12 inches stroke. This type of engine is found in all the side-wheel steamers built by the dry dock company for the Detroit & Cleveland and Cleveland & Buffalo lines. The electric light plant, furnished by the Fuller Co. of Detroit, is of 800 lights capacity. Two direct-connected dynamos are of the Fontaine Crossing Co.'s type. The vessel is ventilated throughout by the McCreery ventilating system. In the arrangement of cabins and in decorations the elegance of the City of Buffalo are surpassed in several particulars, and a feature of the vessel that will be especially pleasing to patrons of the line is a large and handsome smoking room forward on the hurricane deck.

Among auxiliary engines and other equipment in this vessel are the following: Steam steering apparatus by Globe Iron Works Co., Cleveland; Hyde Windlass Co., Bath, Me., windlass; J. Chrysler & Son, Detroit, refrigerating plant; Phelps & Co., Detroit, dining room and kitchen fur-

### Some Interesting Bids.

Several ship building concerns and a number of firms more or less intimately identified with shipping interests are bidding on the large contracts for guns, carriages, etc., which the war and navy departments are preparing to award. One of the most important contracts is for furnishing ninety-five spring return carriages for 12-inch breech-loading rifle mortars, and the bids which were opened a few days ago include the following:

The Walker company, Cleveland, O., thirty carriages, \$7500; twenty, \$7750; less than ten, \$8000; one carriage by Nov. 1, 1898, and one every twenty days thereafter.

Lake Erie Engineering Works, Buffalo, N. Y., ninety-five carriages, \$5000; if ordered by July 1, 1898, first carriage Nov. 1, 1898, and four per month thereafter.

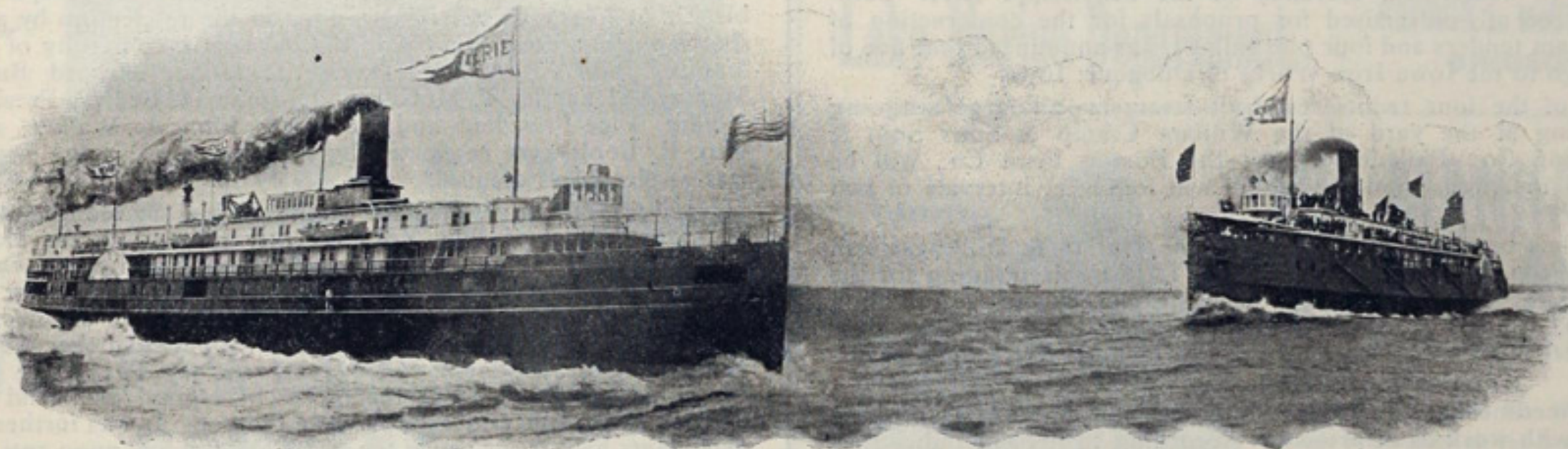
Brown Hoisting & Conveying Machine Co., Cleveland, fifteen carriages, \$7000; entire delivery to be made in one year.

Vulcan Iron Works, Chicago, Ill., ten carriages, \$7000; first carriage in seven months; second in eight and a half months, and one every five weeks thereafter.

Wm. Cramp & Sons Ship & Engine Building Co., Philadelphia, five carriages, \$6000; ten, \$5750; fifteen \$5500; first carriage Nov. 1, 1898; five by Feb. 1, 1899, and one every four weeks thereafter.

### Gen. Franz Sigel and His Namesake.

A few of the older vesselmen were gathered in the office of Warner & Co. in Cleveland, the other day, relating reminiscences, and when one of the group discovered in a newspaper which he was reading a sketch of Gen. Franz Sigel with an account of his present residence, it occasioned no little surprise, most of those present being of the impression that the Civil War hero died several years ago. On the spur of the moment a letter to Gen. Sigel was written and his attention called to the fact that he had a namesake on the lakes in the schooner General Franz Sigel, built at Lorain in 1862, and which the writer designated "a good little



TWO CLEVELAND & BUFFALO LINE SHIPS—CITY OF ERIE AND CITY OF BUFFALO.

nishings; Eureka Fire Hose Co., fire hose; Vinton & Co., carpenter work, interior decorations, glass, etc.; H. L. Leonard & Co., Detroit, furniture; Newcome & Endicott, Detroit, carpets; Detroit Sheet Metal & Brass Works, Detroit, various high grade goods in sheet metal and brass lines required on passenger steamers; Parish Bros., Detroit, electric signals.

### Work on the Vidal Shoal Channel.

In a notice to mariners just issued by the hydrographic office, James Ripley, superintendent of St. Mary's Falls canal, makes the following announcement: "The portion south of the center line of the proposed 1,000-foot channel, through and past Vidal shoal, St. Mary's river, has been opened to navigation. The present channel has 300 feet width and 20 feet available depth of water. Toward the close of the season the portion north of the center line will be opened, with a width of 500 feet and a depth of 21 feet, when the southern portion will be closed and finally completed, giving a channel 1,000 feet wide with a depth of 21 feet. The part of the channel subject to use will be temporarily marked by float lights and spar buoys, and will be changed as necessity arises, being buoyed and lighted accordingly."

In the same issue Capt. John McAllister of the Canadian steamer Alberta furnishes information with reference to the Georgian bay entrance as follows: "After passing Grand Manitoulin island bound to the southward and eastward, opening up the entrance to Georgian bay, between Hungerford point and cape Hurd, the effects of a current are immediately felt. This current is variable in both force and direction, setting from Georgian bay into Lake Huron and vice versa with great irregularity. At times this current is so strong that in thick weather it would be hazardous to attempt an entrance into Georgian bay unless the fog horn could first be heard and its direction established."

Nautical Expert Graves, in charge of the branch hydrographic office at Cleveland, reports that the dredging of the bar at the Ashtabula harbor entrance has been completed to a depth of 19 feet and that the dredging of the bar at the Fairport harbor entrance to a similar depth is practically completed.

The Nickel Plate road sells one fare for the round trip tickets July 2d, 3d and 4th. Returning July 5th. 104, July 2.

One fare excursions via Nickel Plate road, July 2d, 3d and 4th. Ask agents. 105, July 2.

boat, and like yourself has done good service." A reply to the letter was received this week. Gen Sigel, in the course of his letter, which is dated from New York, says: "I am greatly pleased to hear that I have a namesake on the lakes in the schooner Gen. Franz Sigel, and that it was built as far back as 1862, owned and sailed now by Capt. W. J. Curtis of Lorain. It may interest you and the captain to know that there is a little tugboat here dating from war times and bearing the same name; also, there was one on the Tennessee river some years ago. Best wishes to yourselves and Capt. Curtis, whose name is very familiar to me on account of Gen. Samuel Curtis of Iowa, with whom I served in 1861 and 1862 in Missouri."

### Novelty in Pacific Coast Launches.

Two launches distinguished by decidedly unusual characteristics occurred recently on the same day in San Francisco. The first launch—if it may be so designated, for it was not completed—was that of the Mary Ellen Galvin, a 200-foot steamer and one of the largest of those building by the North British American Co. for the Yukon river trade. The vessel moved off all right at the hour appointed for the launch, the bottle of wine was dashed against her bow, she received her name and then suddenly she stuck. It seems that in knocking out the supports the workmen cleared away those under the after part of the vessel a little too soon. She consequently started down but stopped with a jerk when she brought up against the forward impediment, the sudden jerk causing the ways to collapse. The vessel sustained no injury, but several days will be required to reconstruct the ways so as to insure a safe launching.

The other novelty was a moonlight launching at the yard of the Union Iron Works. The big steel tug boat Saidie, building for the Alaska Commercial Co., was christened and slid into the bay at 10.30 o'clock p. m. The night was warm, with a full moon, and of course an immense crowd was on hand. The Saidie is 157 feet long and 30 feet beam, but draws only 36 inches of water.

The unexcelled dining car service on the Nickel Plate road.—Beginning Monday, June 20th, breakfast will be served a la carte, on dining cars of Nickel Plate road. 85, July 14

Nickel Plate road excursion to San Francisco, Cal.—Account of North American turners' convention. Tickets on sale June 27th and 28th. Ask agents. 84, June 23



### New Contracts in the Ship Yards.

A new plating shop is to be erected at a cost of \$45,000 at the Portsmouth navy yard.

John H. Dialogue & Son., Camden, N. J., are building a 150-foot steel tugboat for stock.

Kelley, Spear & Co. of Bath, Me., will shortly lay the keels for two barges for the Staple Coal Co.

Capt. Dana Scott is building a side-wheel steamer at Marietta, O., for the Pittsburg and Louisville route.

The Jackson & Sharp Co., Wilmington, Del., has received contracts for two lighters, each 100 feet long, 31 feet beam and 8½ feet depth.

The launch of the towboat Russell Lord, under construction at Elizabeth, Pa., for the Lord Tie Co. of Chicago will take place in July.

An enlargement and numerous improvements have been made at the plant of R. M. Spedding Ship Building Co. at Baltimore, in anticipation of a rush of business.

J. S. Beacham & Bro. of Baltimore, have launched the tugboat Transport, contracted for by L. Waggner & Co., and afterward sold to the Baltimore Storage & Lighterage Co.

The Wolff & Zwicker Iron Works, Portland, Ore., has just secured the contract for a tug of 850 horse power, and also for three sets of engines for stern wheelers for the Yukon river trade.

George Hitching of Hoquiam, Wash., is building for the E. K. Wood Lumber Co. of San Francisco a four-masted schooner. She will be 177 feet over all, 37 feet beam and 12 feet depth of hold.

The Bertram Engine Works Co., Toronto, has issued neat invitations for the launch, at 3:30 p. m., on Tuesday, June 21, of the steel passenger steamer Toronto, building for the Richelieu & Ontario Navigation Co.

Capt. H. E. Waterman of St. Louis, secretary of the Mississippi River Commission, advertises in this issue of the Review for bids for the construction of a self-propelling hydraulic dredge, complete with machinery, cabin, floating pipe, etc.

Capt. H. E. Waterman, secretary of the Mississippi River Commission, who recently advertised for proposals for the construction of three small steam tenders and four pile sinkers, has announced that five of the contracts go to the Iowa Iron Works of Dubuque, Iowa.

The first of the four twin-screw fruit steamers—all large seagoing vessels—building at the yard of the William Cramp & Sons Ship & Engine Building Co., Philadelphia, for the Boston Fruit Co., will be launched early in August and the others will follow at intervals of two weeks.

The keel has been laid at the yard of the Harlan & Hollingsworth Co. at Wilmington, Del., for the steamer S. T. Morgan, building for the Virginia Chemical Co., New Jersey. The steamer Tennessee, building for the Old Bay Line, is almost ready for launching, and work is progressing on the steel tug Valley Forge for the Philadelphia & Reading Transportation Co.

Not in sometime has the Roach ship yard at Chester, Pa., been so overwhelmed with work as at present. According to present indications there will be launched from the yard this year nine vessels aggregating 15,000 tons and valued at \$1,750,000, which is claimed to be a greater amount of merchant work than any other yard in the country can boast of. The steamer Cape Charles, No. 296, at the Chester yard, will be ready for launching within a few days; the large oil tank vessel, No. 297, is expected to slide into the water about the middle of August, while the big double-decker Pennsylvania ferryboat Philadelphia, the keel of which has just been laid, will be in the water some time late in July or early in August, and the first of the Old Dominion liners, No. 299, will be ready to christen by Oct. 15. It is not expected that the sister ship of this latter steamer, the three hundredth vessel constructed at the Roach yards, will leave the stocks before Dec. 1.

### A Ship-Canal as a Consequence of the War.

The energy awakened by our early wars against England gave us the Erie canal, the national pike, and the development of western river navigation. The civil war gave us our great transcontinental railroads. The present war with Spain must, if its logic is heeded, give us a transisthmian ship-canal. The Pacific is to be the theater of great events and of a rapidly expanding commerce in the years to come. We need the Nicaragua canal in order to give our eastern seaboard a fair opportunity in the Oriental trade. We need it also for our trade with our own Pacific coast and with the western coast of South America. It is now evident, moreover, that we need the Nicaragua canal as a defense measure. The naval situation in the West Indies last month showed how much might possibly have depended upon the prompt arrival of the Oregon, which has required some ten weeks to proceed by way of Cape Horn from San Francisco to Key West. On the other hand, the naval situation in the Philippines showed how, under certain contingencies, it might have been necessary to send a relief expedition to Admiral Dewey from the Atlantic coast. The United States government could readily afford to take the financial risk of the Nicaragua canal purely on grounds of public defense. The canal would probably pay its own way out of the tolls upon commerce; but even if there were some annual deficiency to be met, it would be the most economical part of our annual naval bill. Thus far, the war has shown that we need a coaling station or two in the West Indies, that we need the Hawaiian islands, and that we need the Nicaragua canal as an out-and-out territorial possession of the United States. The canal ought to be built as a direct governmental undertaking, and ought to be cut through a strip of ground owned by the United States as absolutely as our government owns the District of Columbia. No other plan will suffice. —American Monthly Review of Reviews.

Get particulars from agents regarding \$1.00 excursion tickets offered for sale by the Nickel Plate road on Sundays, to parties of five or more.

### Trade Notes.

An addition of six mills is being made to the plant of the Forest City Paint & Varnish Co., Cleveland.

The Johnson Steel Co. of Lorain, has contracted with the Cleveland manufacturers of the Thew automatic shovel for three shovels similar to the one now being operated on The Cleveland & Pittsburg ore docks.

Extensive improvements have lately been completed in the plant of the Almy Water Tube Boiler Co., Providence, R. I. A large addition to the shop has been built and the arrangement of the machinery so changed as to greatly facilitate its operation. A large open space is left in the center of the building for the erection of the boilers. The Almy boiler is meeting with wonderful success and the company is finding difficulty in keeping up with its orders.

Steel work for the new power house being erected by the Port Chester Street Railway Co. of Port Chester, N. Y., was designed and is being erected by the Berlin Iron Bridge Co. of East Berlin, Conn. The building has brick side walls in which are built steel columns supporting a steel truss roof. In the engine room is a traveling crane arranged so that any part of the engines and dynamos on the floor below can be readily lifted and moved from one place to another.

The action of congress in providing a \$200,000 appropriation for the immediate improvement of the Christina river has been hailed with considerable delight at Wilmington, Del., by reason of the fact that the Harlan & Hollingsworth Co. will thus be enabled to construct vessels of the largest type. This company has turned out some very fine merchant vessels, but the condition of the river has been a drawback to the development of Wilmington ship building interests.

"Notwithstanding the drift of business in engineering lines into big hands," says one of the members of the firm of Teare & Thomas (River Machine & Boiler Co.) of Cleveland, "I think that most concerns of our kind that are carefully managed are getting their share of business. We have enough orders on hand to keep us busy in our boiler department for at least six weeks. Owing to improved facilities for repair work, we are getting more business in repairs than ever before."

The annual meeting of the stockholders of the Joseph Dixon Crucible Co. at Jersey City, N. J., resulted in the re-election by a vote of 7,042 shares out of a possible 7,345 of the old board, consisting of Edward F. C. Young, John A. Walker, Daniel T. Hoag, Richard Butler, William Murray, Alexander T. McGill, and Joseph D. Bedle. President E. F. C. Young, Vice-President and Treasurer John A. Walker, and Secretary Geo. E. Long were re-elected by the directors. Judge Joseph D. Bedle was re-elected as counsel.

Judge William J. Wallace of the United States circuit court of the southern district of New York recently granted to the Magnolia Metal Co. a permanent injunction against Benjamin and Loses Lowenstein, trading as B. Lowenstein & Bro. and as the Nassau Smelting & Refining Co., New York, restraining them from offering for sale or advertising "Mongolia anti-friction metal," which metal it is alleged they were advertising and selling as Magnolia anti-friction metal. The judge held that the Magnolia company, being the owner of a good and valid trademark, is entitled to the sole and exclusive use thereof. It was further held that the defendants had by the use of the word "Mongolia" upon anti-friction metal violated and infringed upon the exclusive rights of the complainant. The defendants were accordingly permanently enjoined from the use of the word "Mongolia" or any other word calculated to deceive the public by a like close imitation of the complainant's trademark "Magnolia." The complainant was further ordered to recover damages sustained by the infringement.

A dispatch from Washington says that the senate committee on commerce has made little progress with the seamen's bills, war matters taking up their time entirely.

It would seem that the pressing business of vessel men in different lake cities, especially the ship brokers and big ore firms, is more generally conducted by long distance telephone now than by telegraph. The prejudice against the telephone for long distance use, which was encountered at first on account of hitches in establishing the service, is unheard of now. The entire service has been wonderfully changed through improvements in the telephone exchanges of lake cities. A switchboard recently put into the Cleveland exchange, for instance, is said to have cost \$100,000. It is one of the most remarkable pieces of mechanical construction in the telephone world. The construction of this board, including the wiring in the terminal room, etc., involved the use of over 20,000,000 feet of wiring—a total of nearly 4000 miles. To put it in working order 600,000 soldered joints were made. Through this board about 100,000 calls are answered daily. Although a new building was only recently opened for telephone service—long distance and local—in Cleveland, it is announced that about \$300,000 additional is to be expended at once by the Cleveland company. The long distance service will be extended, before the close of the present season, to the Minneapolis, St. Paul, Duluth district, and then vessel men will be using it more than ever. They are the big patrons of the telephone companies in this part of the country.

Reduced rates to Portland, Ore., via Nickel Plate road, June 29th and 30th, account tenth triennial national council of Congregational churches. Ask agents.

87, June 29

**PROPOSALS FOR SELF-PROPELLING Hydraulic Dredge.**—Mississippi River Commission, 2732 Pine street, St. Louis, Mo., June 21, 1898.—Sealed proposals, in triplicate, for construction and delivery of a self-propelling hydraulic dredge, complete with machinery, cabin, floating pipe, etc., will be received here until 12 o'clock noon, standard time, July 22, 1898, and then publicly opened. Information furnished on application. H. E. WATERMAN, Capt., Engr's, Sec'y. July 14.



## The Bessemer Steamship Company

Solicits Catalogues, Prices and Discounts from manufacturers and wholesale dealers in Ship Machinery, Brass Goods, Rope, Paints, Asbestos, Packing, Hose, Furniture, Piping, Glass and Crockery, Tinware, Ranges, Carpeting, Bedding, Life-preservers, Rafts and Boats, Engineers' Supplies and Tools, Carpenters' Tools, Electric Supplies, Lamps, Grate Bars, Castings, etc., etc.

ALSO QUOTATIONS from Market men and Grocers on the Lakes for Provisions and Meat, best quality only.

CATALOGUES without quotations are not wanted.

ALL GOODS except provisions to be delivered in Cleveland.

Address L. M. BOWERS, General Manager,  
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## Steamboat Fuel at Ashtabula.

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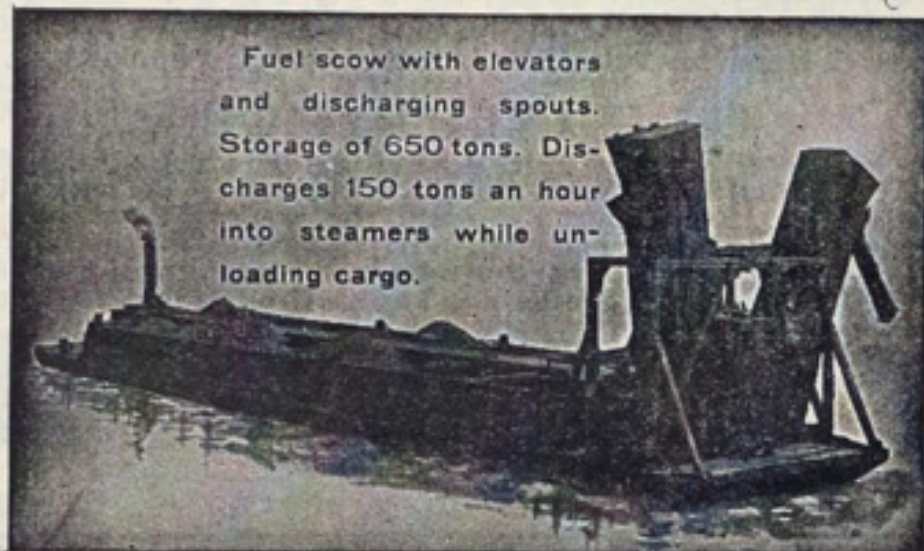
**Lighter**

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Different

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at all  
Times.



**M. A. HANNA & CO.,**

Main Office, Perry-Payne Bldg., Cleveland. **Miners and Shippers.**

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Equipped with a Simpson's Basin Dry Dock capable of docking a vessel 600 feet long, drawing 25 feet of water, at any stage of the tide. Repairs made promptly and at reasonable rates.

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T. HOWARD WRIGHT, Marine Sec'y.

**Lake Marine Department.**

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## THE MANHATTAN RUBBER MFG. CO.

Mechanical Rubber Goods.

FACTORIES, PASSAIC, N. J.  
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Branch Salesrooms on the Great Lakes:  
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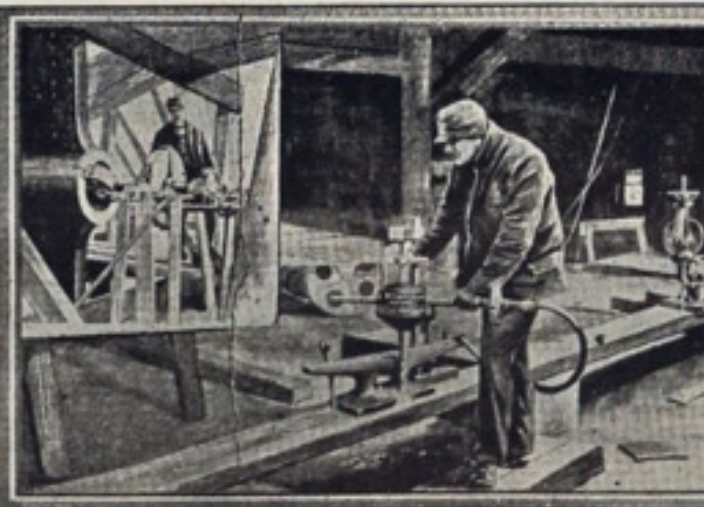
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GAS and STEAM

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**VESSELS FUELED** at all hours with **OCEAN** Coal only, by Steam Lighter or Car Dump. Electric Light.

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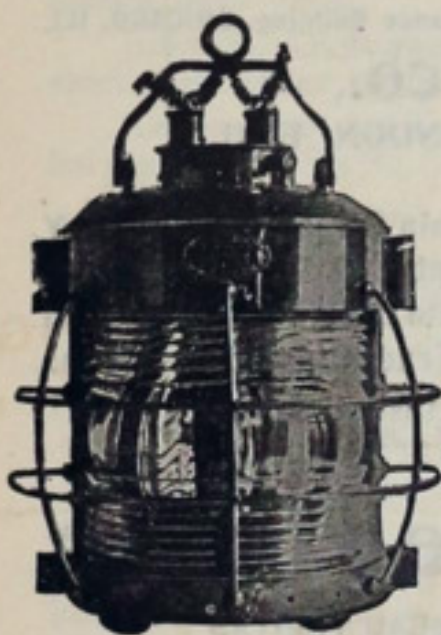
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# MARINE LAMPS



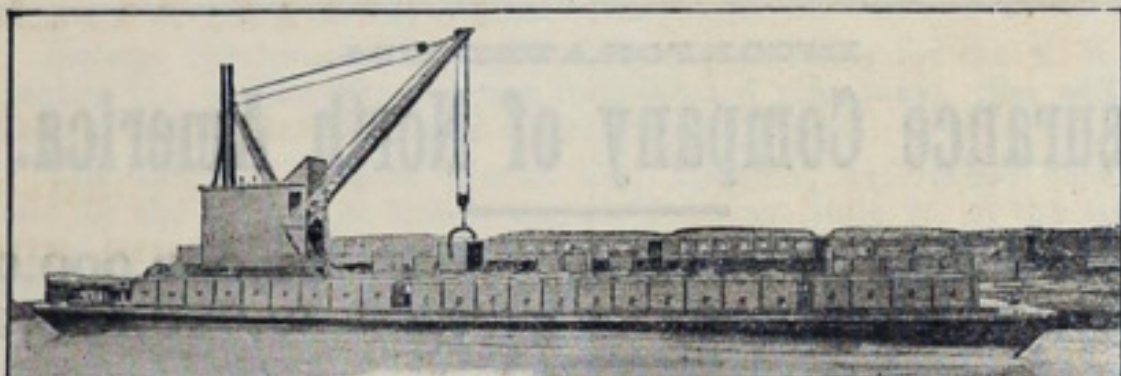
Oil and Electric  
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Yachts, etc.

Signal Lights,  
Saloon Fixtures,  
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**FUEL FOR STEAMERS AT CLEVELAND AND CHICAGO**  
Youghiogheny, Pittsburg and New River Coal.



Fuel Lighter at Cleveland, O.

## THE PITTSBURGH & CHICAGO GAS COAL CO.

J. A. DONALDSON, Mgr. N. J. BOYLAN, Dock Mgr.

Latest Dock and Lighter equipment for rapid fueling.

**FUEL DOCKS**—River Bed, through Valley Railway  
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**LIGHTER**—With 150 2½ ton buckets (400 tons capacity.)

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**FUEL DOCKS**—No. 1, Michigan Slip and Basin; Phone —.  
No. 2, North Halstead St. Bridge. Phone 773 North.

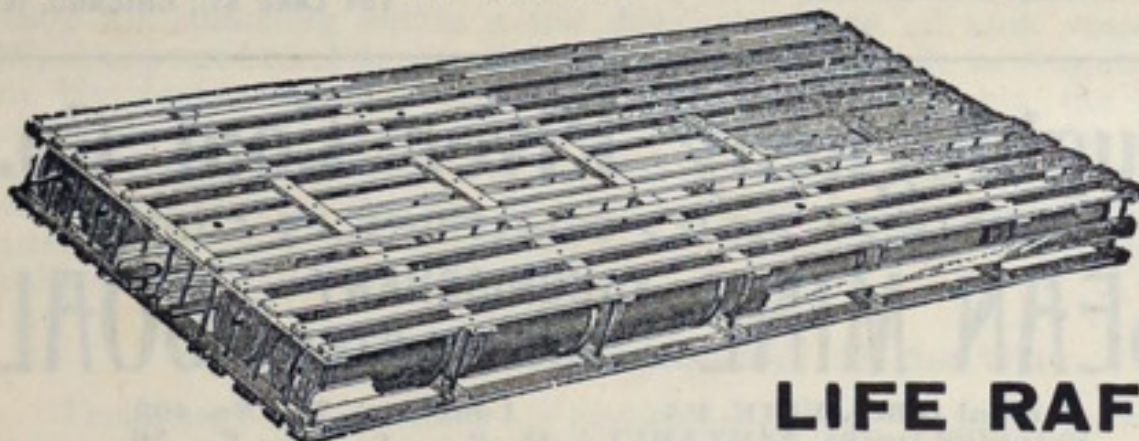
**LIGHTER**—Equipped with 125 two ton buckets for fuel-  
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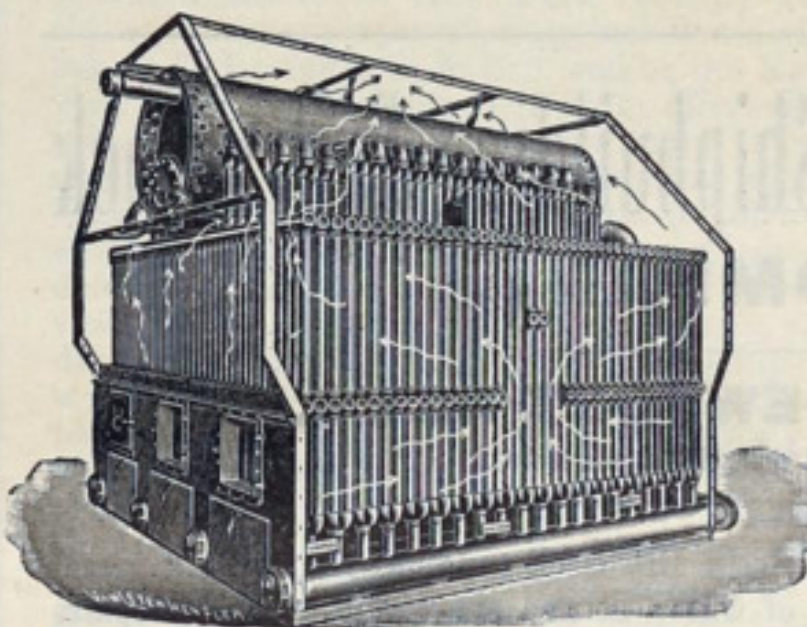
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All kinds of Chain—  
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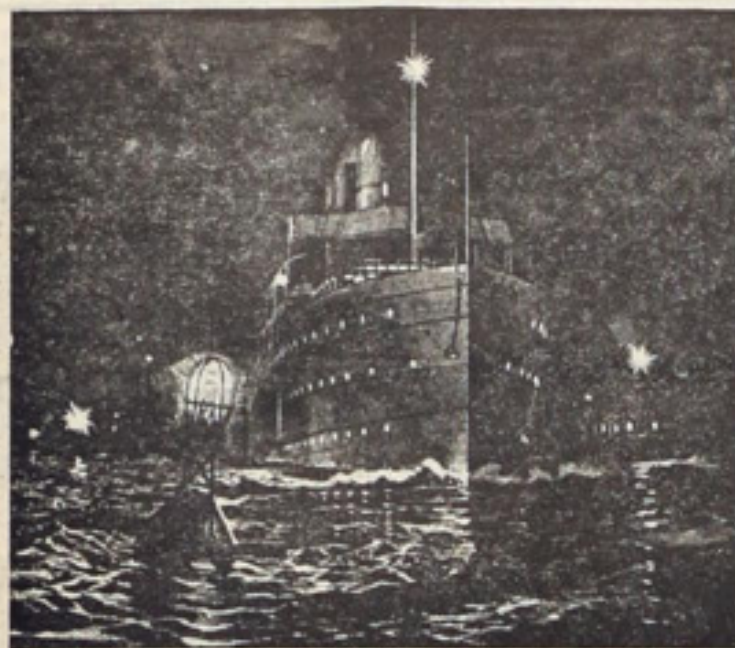
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BOAT FURNISHING A SPECIALTY.  
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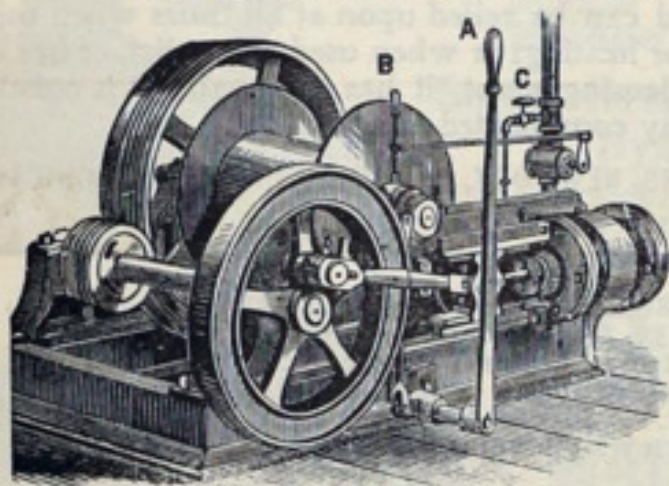
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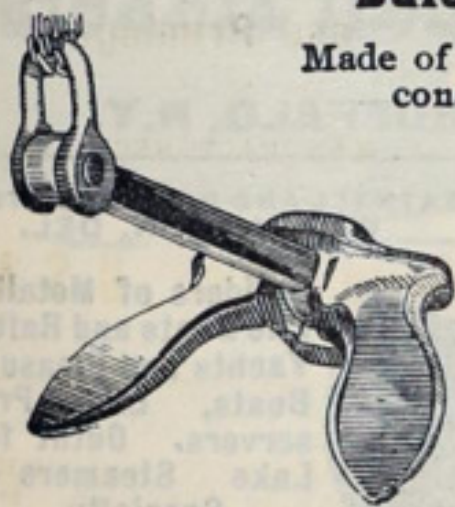
Made of the finest quality of open-hearth steel and  
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Many points of superiority over ordinary  
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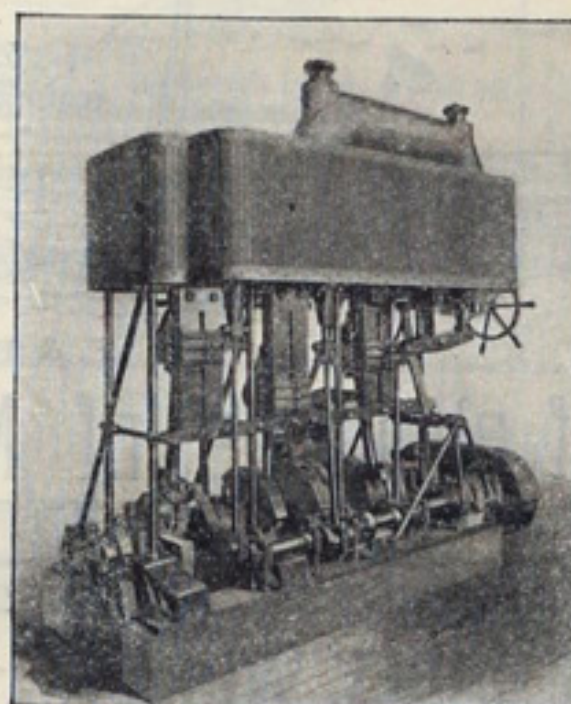
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Quadruple and  
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15 to 3000 Horse  
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STEAM AND SAIL YACHTS.  
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Send us your name and address and it will be shipped, express  
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MARINE REVIEW, Cleveland, O.



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Enables you to MAKE A TIGHTER JOINT than you can possibly make with red lead. You can do it easier, and parts can be separated at any time without breaking anything. Send for sample and circular.

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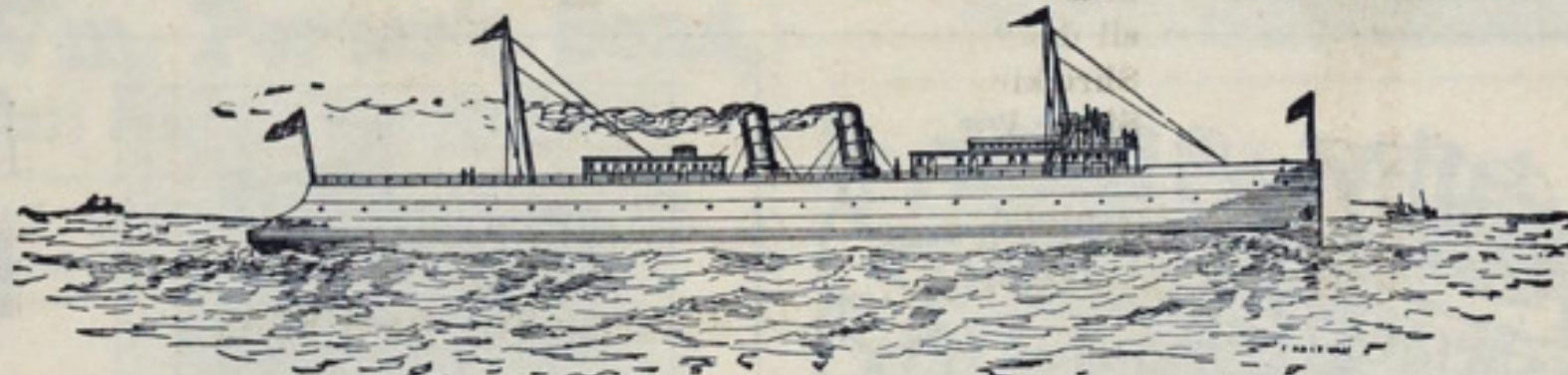
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Is fully explained in an INTERESTING AND INSTRUCTIVE PAMPHLET which is FREE to all interested. It will pay all Engineers and Machinists to SEND FOR IT.

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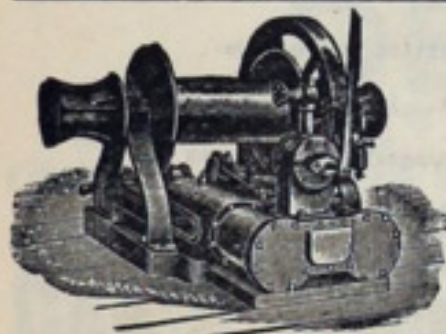
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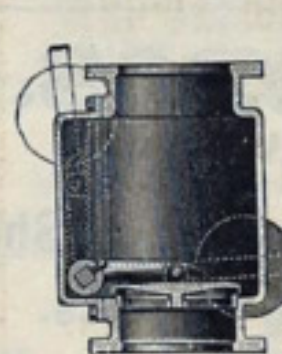
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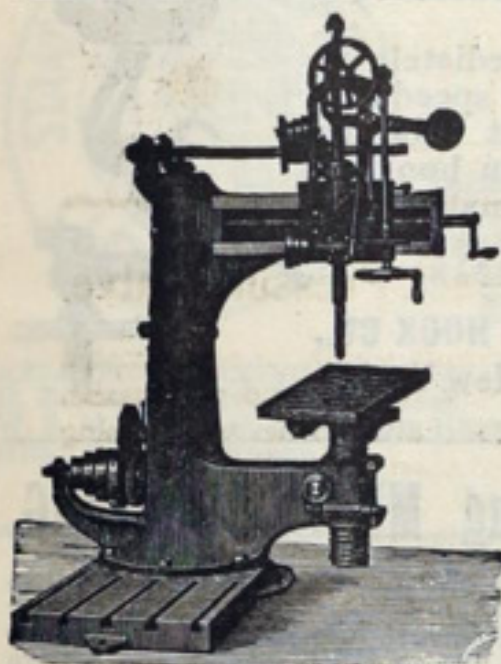
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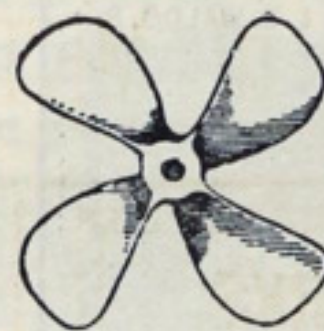
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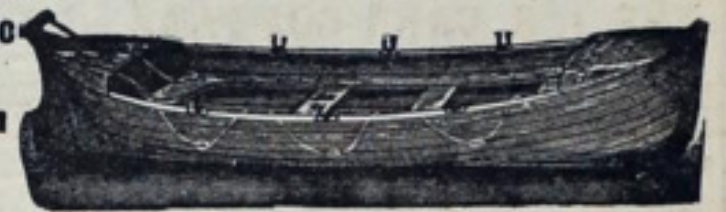
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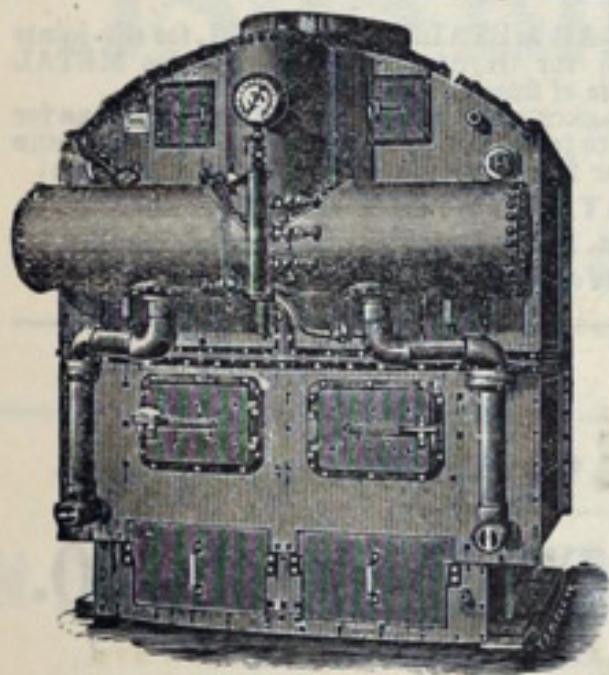
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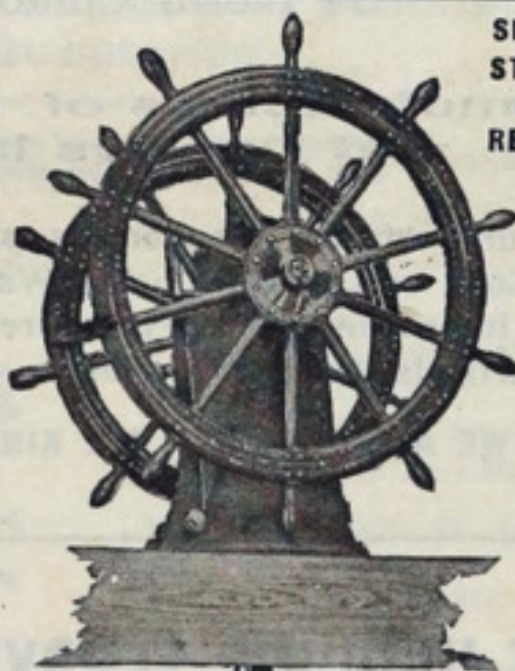
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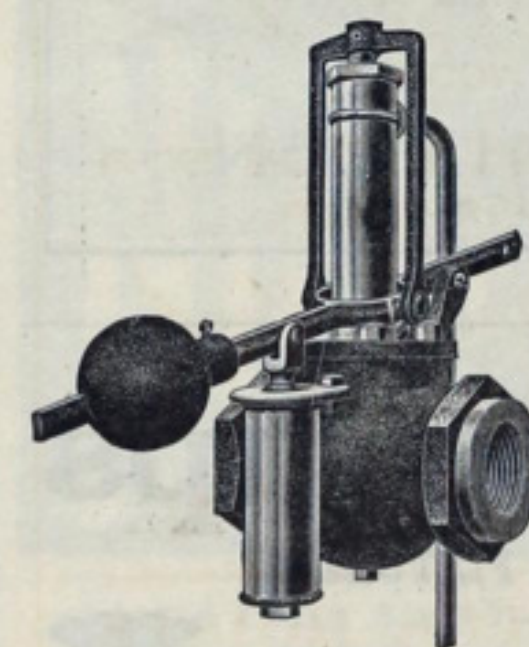
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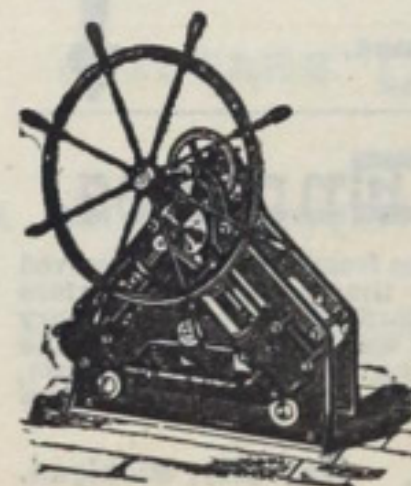
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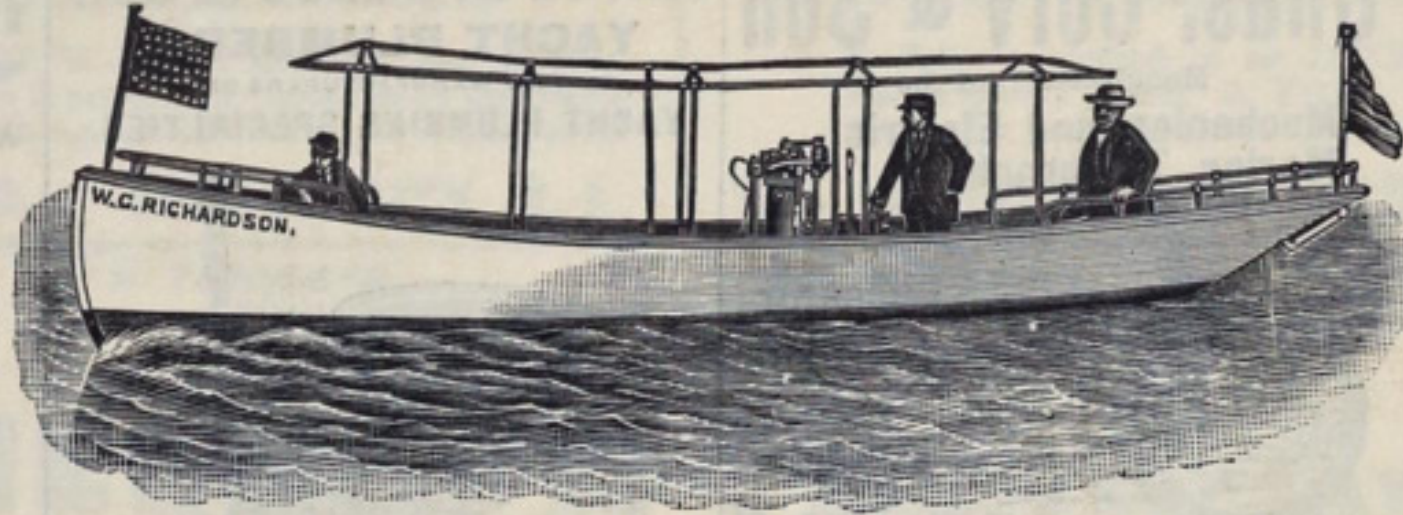


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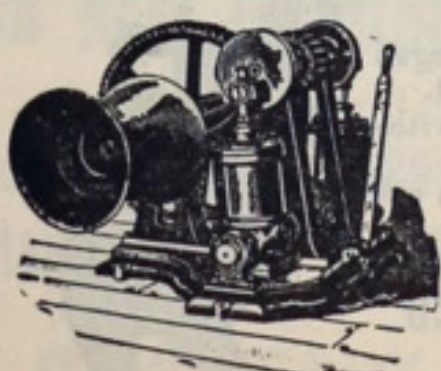
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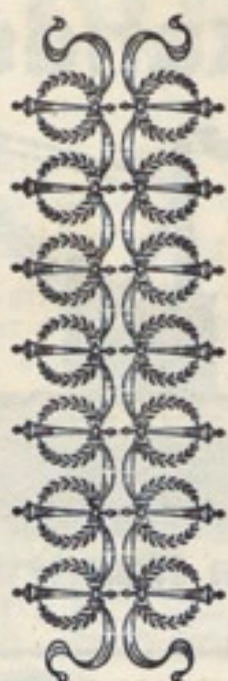


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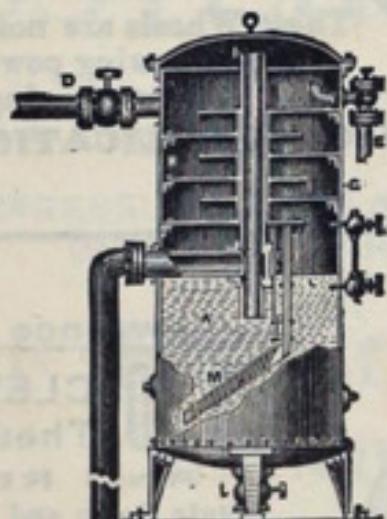
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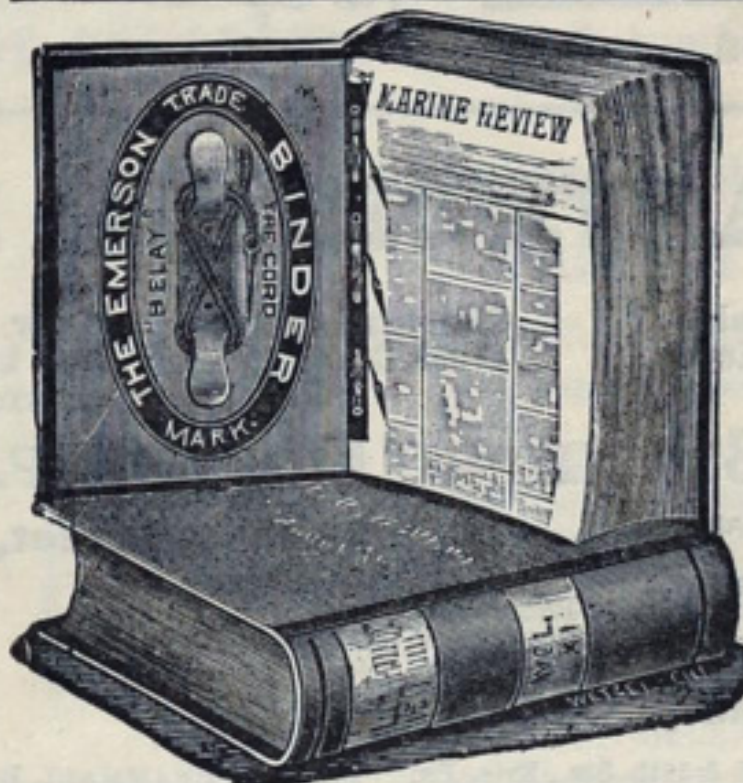
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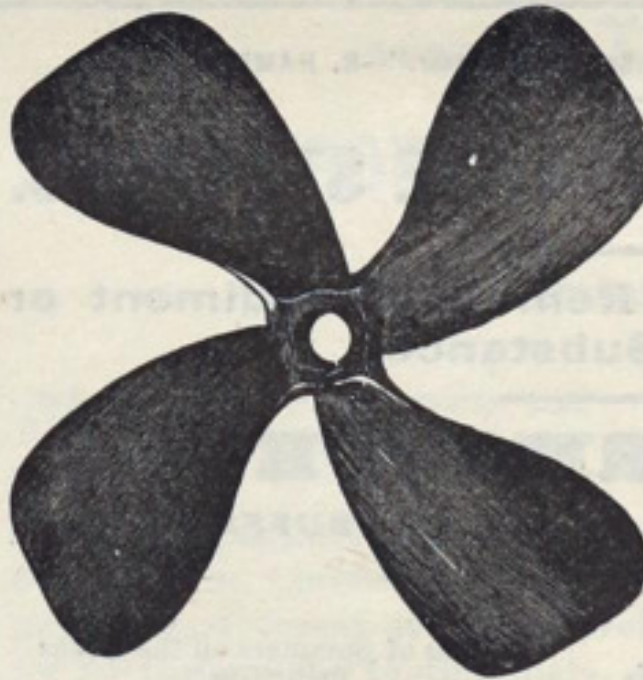
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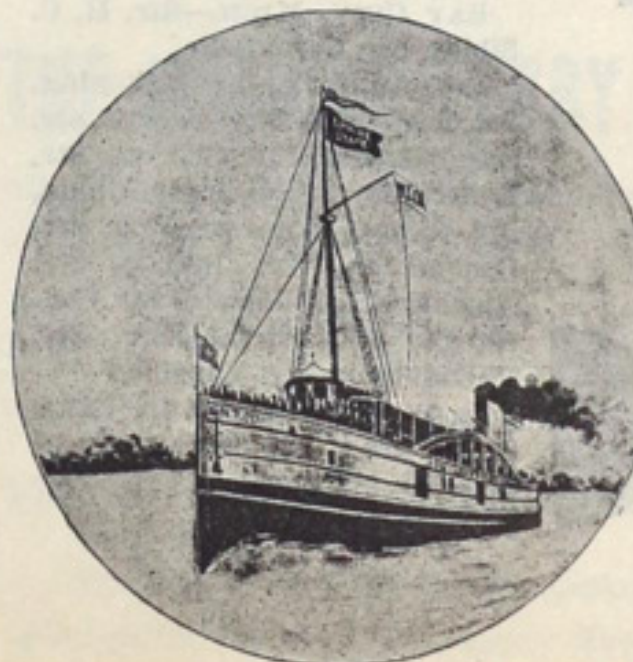
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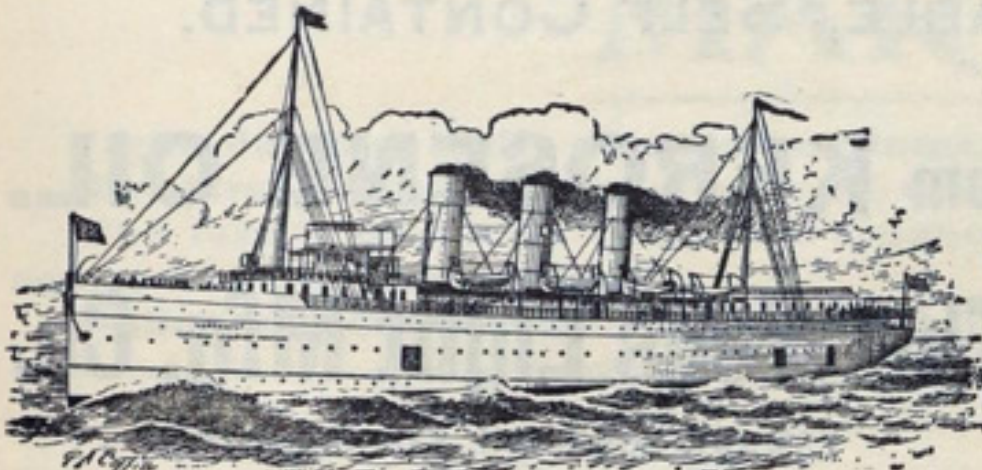
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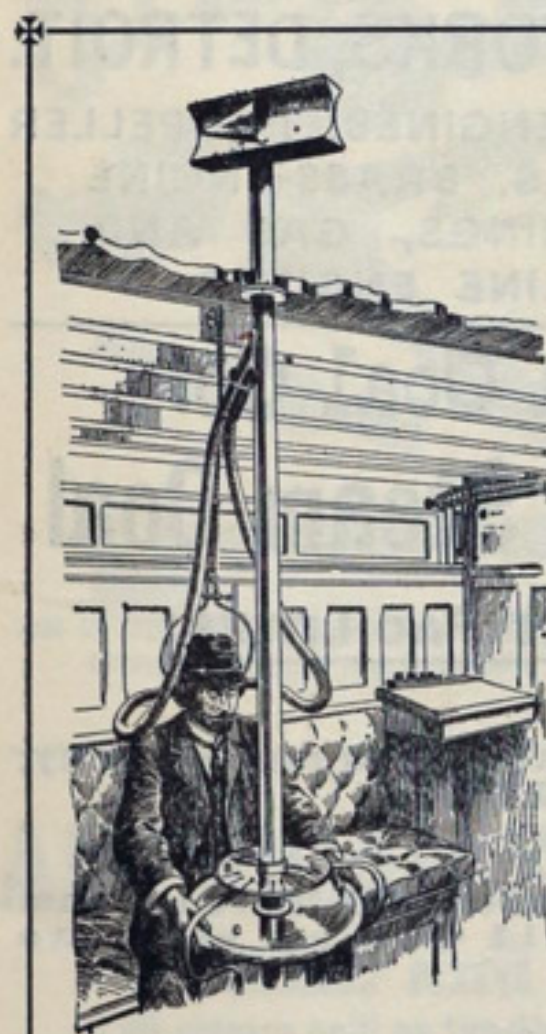
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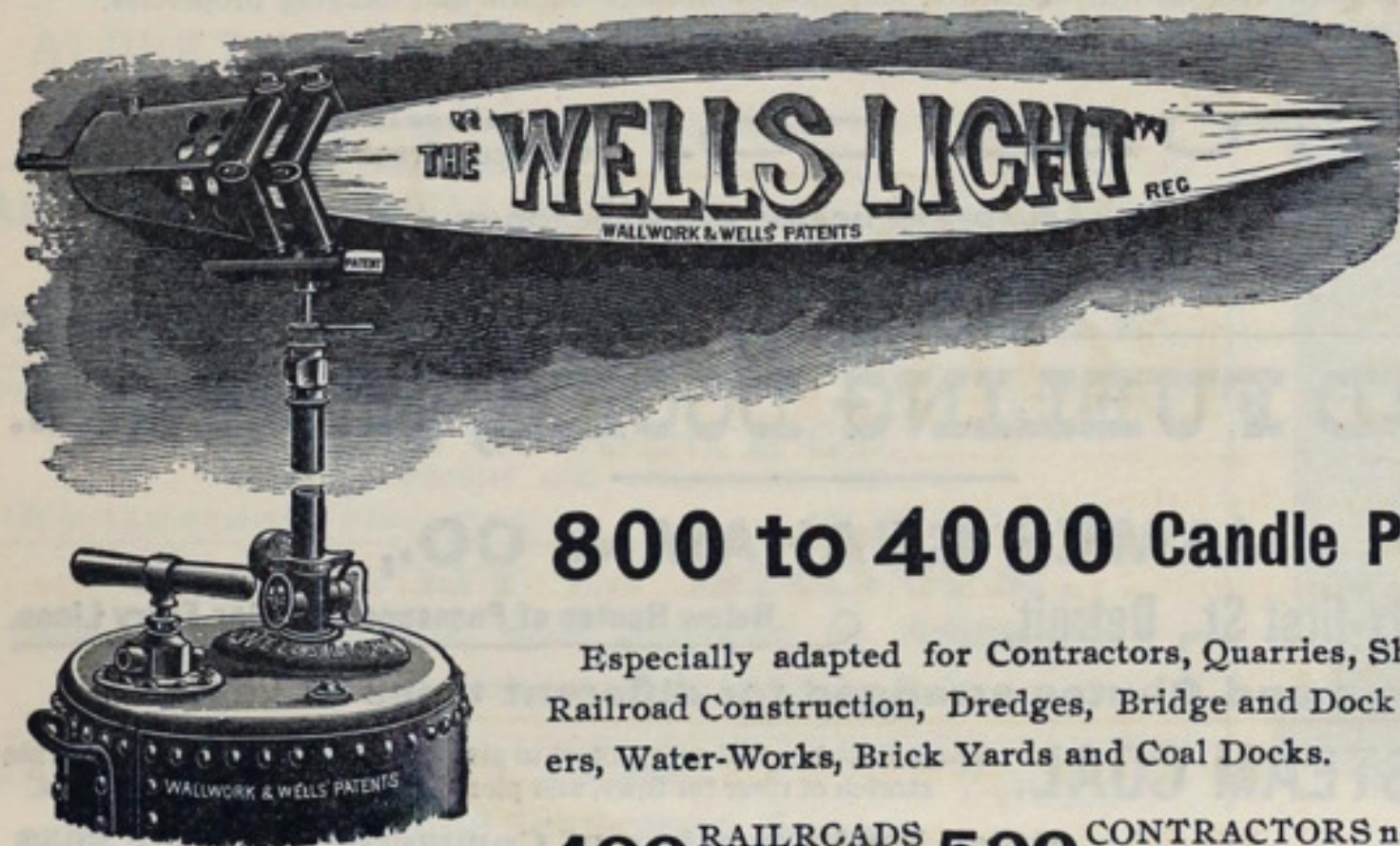
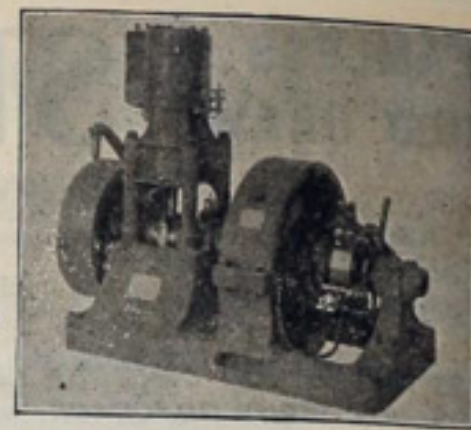
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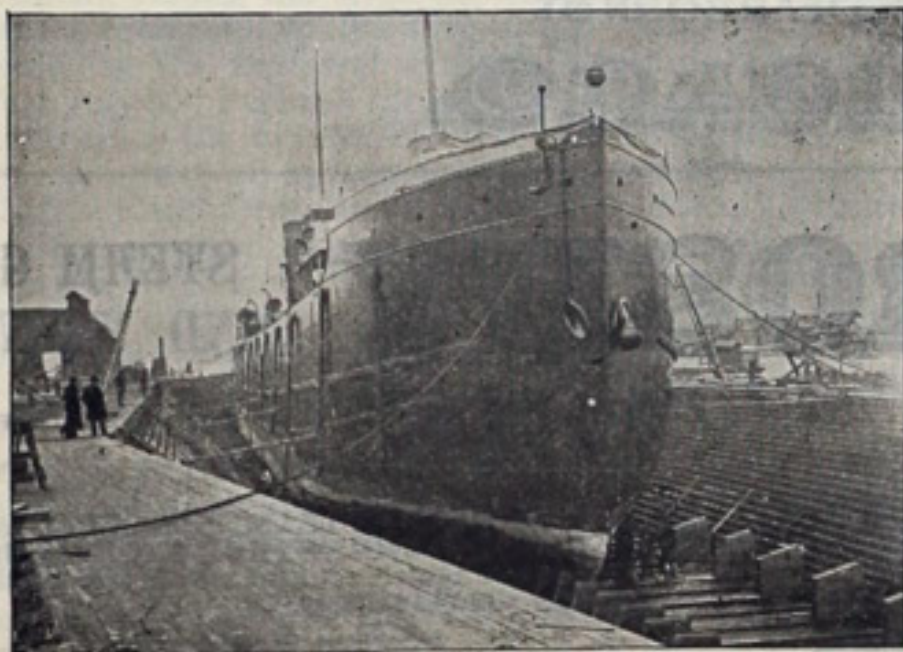
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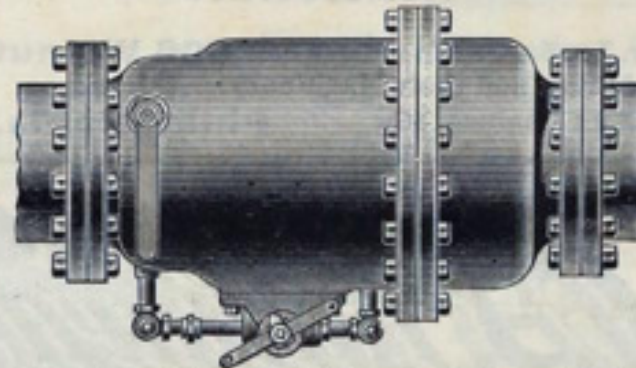
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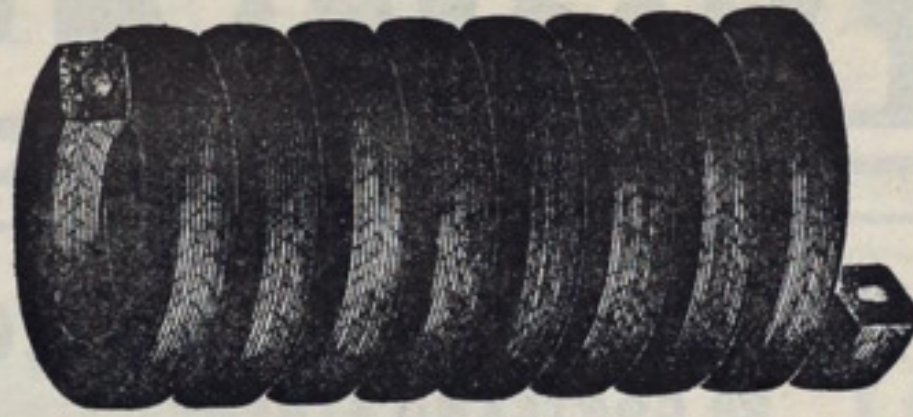
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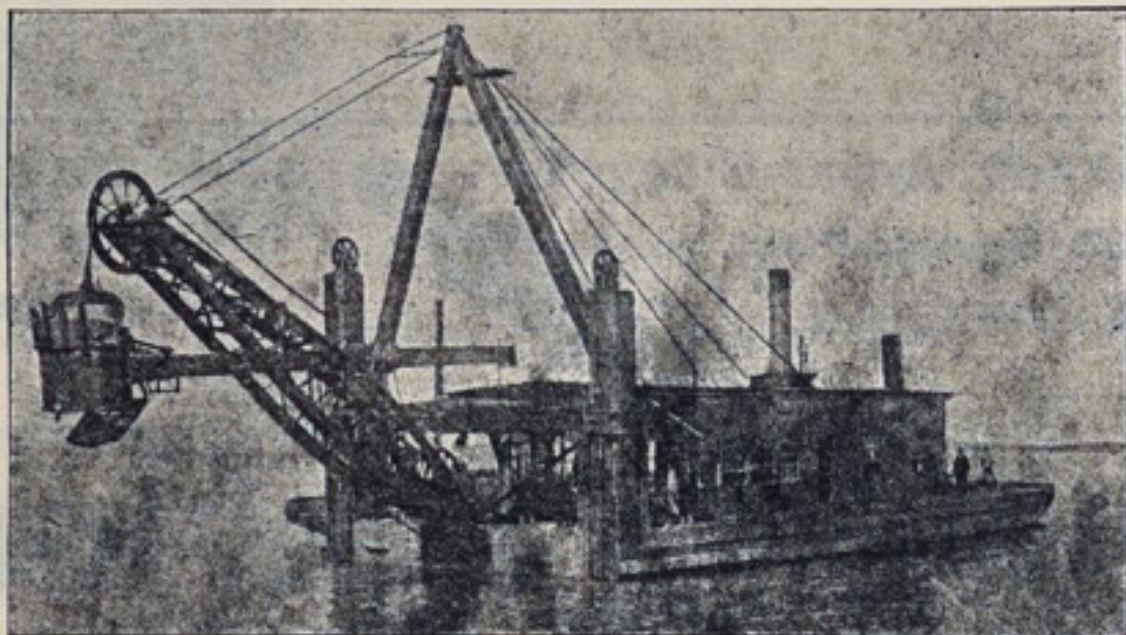
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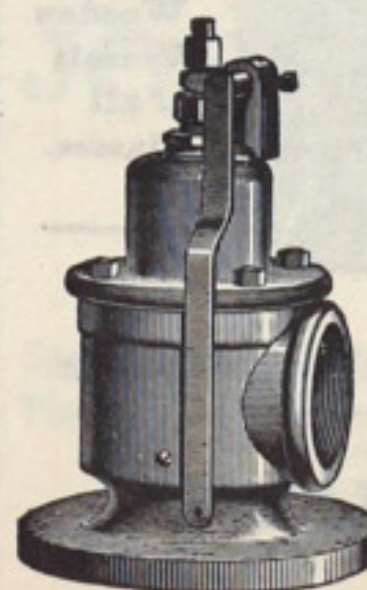
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